KCSE 2021 PREDICTION

SET 2

For Marking Schemes/Answers Call 0705525657

443/1
AGRICULTURE
PAPER 1 (THEORY)

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the spaces provided above.
2. This paper has **THREE** sections: A , B and C
3. Answer **ALL** the questions in section A and B and any **TWO** questions in section C 4. ALL answers **MUST** be written in the spaces provided.
5. Do not remove any pages from this booklet.
6. This paper consists of 12 printed pages. Candidates should check to ensure that all pages are printed as indicated and no questions are missing

FOR EXAMINER'S USE ONLY

	Questions	Maximum score	Candidate's score
A	01 - 17	30 marks	
B	18 - 21	20 marks	
C	22 - 24	20 marks	
		20 marks	
Total score		90	

SECTION A (30 MARKS)

1. Why is sub-soiling important in crop production? (1mark)

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2. a. What is minimum tillage? (1mark)

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b. List four activities involved in minimum tillage (2marks)

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3. a. What is opportunity cost? (1mark)

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b. When is opportunity cost zero? (1mark)

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4. State four effects of HIV/AIDs on Agricultural production (2marks)

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5. Give five functions of soil water (2½mks)

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6. Define the following terms as used in crop production (2marks) a. Hardening off

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b. Pricking out

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Rogueing

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d. Trellishing

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7. List three uses of vegetables (1½mks)

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8. a. What is tissue culture as used in crop production (1mark)

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b. State three advantages of using tissue culture in propagation (1½mks)

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9. Distinguish between budding and grafting (1mark)

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10. Give four reasons for crop rotation (2marks)

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11. Name four examples of working capital in maize production (2marks)

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12. Give two similarities between a household and a firm in production economics (1mark)

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13. a. Define production function as used in agricultural economics ($^1/_2$mark)

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b. Give three types of production functions   (1$\frac{1}{2}$mks)

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14. a. State the law of substitution in production economics   ($\frac{1}{2}$mark)

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b. Give an example of where this law can apply.   (1mark)

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15. Give two ways by which polythene sheets help in water conservation   (1mark)

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16. Name two methods of making compost manure   (1mark)

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17. List four characteristics of a crop grown for green manure   (2marks)

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SECTION B (20MARKS)

18. The diagram below illustrates a pineapple crop. Study it and answer the questions below.
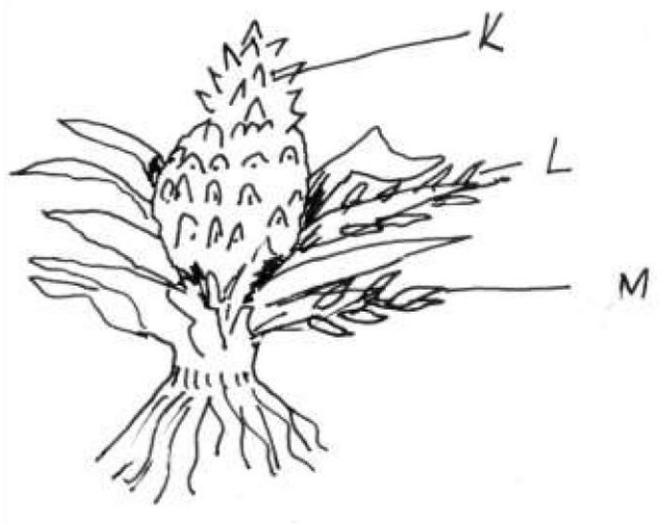
(a) Identify the parts labeled **K**, **L** and **M**.   (3 marks)
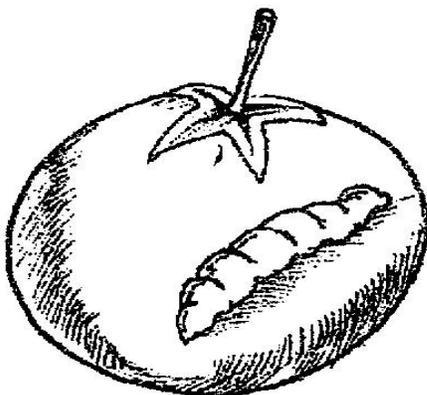
    K ……………………………………………..

    L …………………………………………….

    M …………………………………………….

  (b)   Apart from the parts mentioned above, list down TWO other vegetative materials used for crop propagation.   (2marks)

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19. The diagram **below** illustrates a tomato fruit infested by a certain pest.

(i)   Identify the pest. …………………………………………………….. (1 mark)

(ii)   State the damage caused by the pest on the fruit.   (1
        mark)

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(iii)   State **two** methods of controlling the pest.   (2 marks)

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(iv)   Name the disease characterized by rotting of the lower part of the fruit above. (1 mark)

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20. A farmer is to apply a compound fertilizer 20-30-0 on a vegetable plot measuring 5m long by 4m
    wide at the rate of 200kg/ha.

    a. Calculate the amount of fertilizer the farmer requires for the plot
     (show your working).   (3 marks)

b. What do the figures 20-30-0 represent? (1mark)

20 ………………………………

30 ………………………………

c. Differentiate between compound and mixed fertilizer (1mark)

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21. Below is a method of irrigation. Study it carefully and answer questions that follow;

a) Identify the method (1mark)

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b) Other than the above method, give any other two types of surface irrigation? (2marks)

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c) Give two ways in which the above method of irrigation can be maintained? (2marks)

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SECTION C (40MARKS)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

ANSWER ONLY TWO QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED AFTER

QUESTION 24.

22. a. Outline four advantages of using seeds for propagation (4marks)
    b. Describe five ways in which soil fertility can be maintained (10 mks)

    c. Outline six uses of farm records (6marks)

23. a. Discuss five ways in which labour productivity in a farm can be improved (5marks)

    b. Outline the steps followed in land adjudication (5marks)

    c. Describe the field production of cabbage under the following sub-headings

         i.   nursery establishment and management (5marks)

         ii.   transplanting (3marks)

         iii.   harvesting (2marks)

24. (a) State and explain any **five** cultural methods of controlling weeds (10marks)

    (b) Explain the factors that may determine spacing of crops in the farm (10marks)

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K.C.S.E PREDICTION SET 2

443/2
AGRICULTURE
PAPER 2 (THEORY)

1. Name four exotic pig breeds reared in Kenya.   (2mks)

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2. State four predisposing factors of mastitis in cattle

3. Give two functions of a carburetor in a petrol engine (1mk)

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4. State four signs of broodiness in a her (4mks)

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5. State two functions of the crop in poultry digestive system (1mk)

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6. State four factors that would determine the amount of concentrate fed to dairy cattle. (2mks)

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7. Give four factors to consider when sitting fish pond. (2mks)

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8. Give four effects of external parasites that are harmful to livestock (2mks)

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9. State one use of the following tools (2mks)
a) Pipe wrench …………………………………………………………………………..

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b) Steel float

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c) Mason`s towel ……………………………………………………………………………………

d) Ball pein hammer …………………………………………………………………………………..

10. State four reasons why a farmer would choose to use a disc plough rather than a mould board plough.

(2mks)

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11. Give two methods used in administering vaccines to livestock.   (1mk)

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……

12. Give the meaning of the following terms as used in livestock breeding.

a) Recessive gene ……………………………………………………………………………………
(1mk)

b) Epitasis
……………………………………………………………………………………………….(1mk)

13. Name the strokes in a four stroke cycle engine.   (2mks)

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14. Name four wood preservatives   (2mks)

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15. State two functions of guard rails in a furrowing pen.   (1mk)
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16. A dairy cow under zero grazing system weight 700kg. Calculate how much of dry matter it takes given that it takes 2.5kg for every 100kg live weight. (Show your working (2mks)

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17. List four factors that influence the quality of honey. (2mks)

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SECTION B(20MKS) ANSWER ALL THE QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED

18. The diagram below shows a cross-section of an udder. Study it and answer the questions that follow.
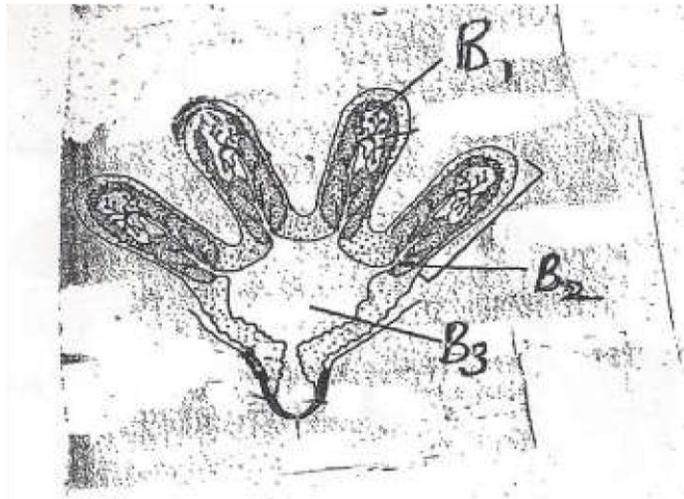
i) Identify the parts labeled B1,B2 and B3

a) B1 …………………………………………………………

b) B2 …………………………………………………………

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c) B3 ……………………………………………………… ii) Give one function of the labeled B1

(1mk)

iii) Name the hormone responsible for milk let-down. (1mk)

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19. The pictures below show methods of identification in livestock.
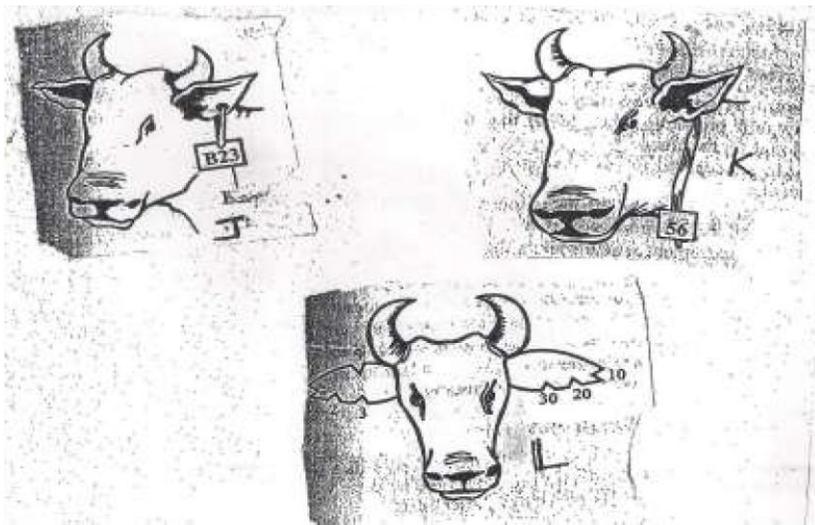
a) Name the methods labeled, K and L

J …………………………………………………..

K …………………………………………………..

L …………………………………………………..

b) Give two reasons why method L of identification is discouraged in livestock rearing. (2mks)

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20. The diagram below illustrates an animal draw implement

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
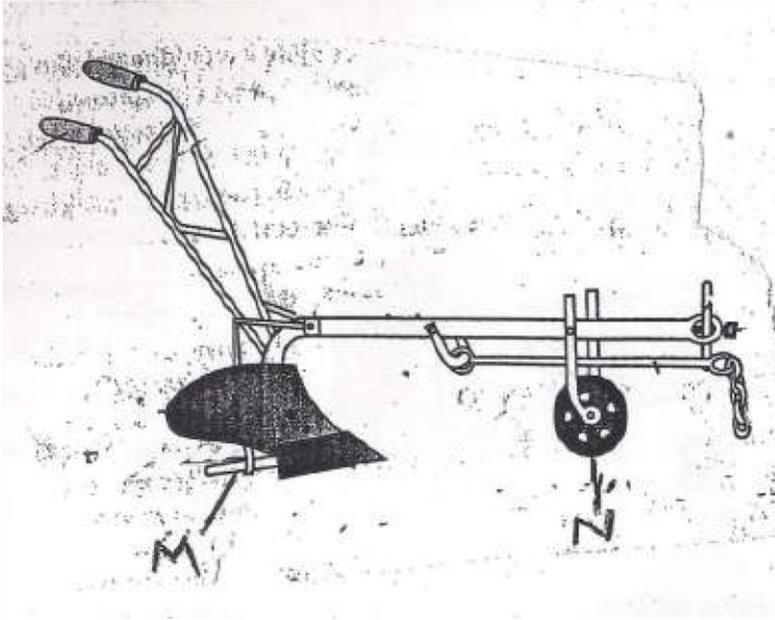
a) Identify the implement   (1mk)

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b) Name the part labeled

M………………………………………………

N ………………………………………………

c) Give two maintenance practices carried on the above implement.

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21. The illustrate below shows a structure used in raising poultry under a certain rearing system. Study it and answer the questions that follow.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
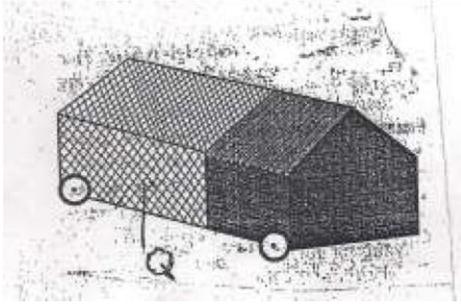
a) Identify the system of poultry rearing illustrated above.   (1mk)

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b) Give the appropriate measurements for the structure that can accommodate between 10-15 hens. (1mk)

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c) State the main functions of the region marked Q on the structure.   (1mk)

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d) What is the importance of moving the structure daily to a fresh ground.   (2mks)

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SECTION C (40MKS) ANSWER ANY TWO QUESTIONS

22. a) Describe conditions necessary for artificial incubation.   (8mks)

b) Explain seven factors that affect milk composition in dairy farming   (7mks)

c) Give five structural and functional differences between petrol and diesel engine.   (5mks)

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23. a) Describe East Coast Fever/Theileriosi disease under the following sub-heading

i) Livestock affected

(1mk) ii) Casual organism

(1mk) iii) Signs of attack

(1mk) iv) Control measures

(1mk)

b) Describe the maintenance practices required on the tractor before it is put to daily use.   (10mks)

24.a) Outline **ten** factors to consider when selecting livestock for breeding .

(10mks) b) Describe the function of **ten** parts of a plunge dip.

(10mks)

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K.C.S.E PREDICTION SET 2

231/1 BIOLOGY
PAPER 1 (THEORY)

INSTRUCTIONS TO CANDIDATES

• *Write your **name and Admission number** in the spaces provided above □ **Sign** and write the **date** of examination in the spaces provided.*
• *Answer **all** the questions in the spaces provided.*
• ***This paper consists of 10 printed pages.***
• ***Candidates should check to ascertain that all pages are printed as indicated and that no questions are missing***

For Examiners Use Only

Question	Maximum score	Candidate's score
1- 34	80	

1. A black mouse was crossed with a brown mouse. Half of the offspring were black and the other half brown using letter B to represent the gene for black colour and b to represent the gene for the brown colour, work out the genotype of the parents. **(3marks)**

2. A process that occurs in plants is represented by the equation below.

$$C_6H_{12}O_6 \longrightarrow 2C_2H_5OH + 2 CO_2 + Energy$$

     (Glucose)   (Ethanol)   (Carbon (IV) Oxide)

a) Name the process. **(1mark)**

…………………………………………………………………………………………………

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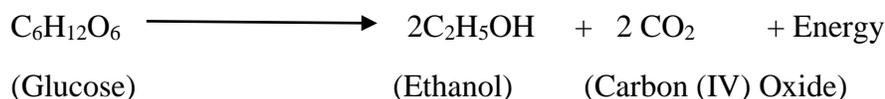
b) State the economic importance of the process named in (a) above.   (**1mark**)

…………………………………………………………………………………………………

3.   State the importance of the following parts of a microscope   (**2marks**)

   i)   Clip

....

…   ii)   Coarse adjustment knob

....………………………………

… 4.   a)   Explain why larmacks theory of evolution was not accepted by the modern

         Biologists.   (**1mark**)

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   b)   Define the following terms

   i)   Analogus structures.   (**1mark**)

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   ii)   Divergent evolution.   (**1mark**)

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5.   Name the chemical component that provides support in the following   (**2marks**)

a)   Collenchyma

……………………………………………………………………………………………..

b)   Sclerenchyma.

…………………………………………………………………………………………………

6.   State **two** importances of roughages in the process of digestions of food.   (**2marks**)

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7.   Identify the cells that produce the following   **(3marks)**

  i)   Mucus

  ....……………………………………………………………………………………

…   ii)   Pepsin and rennin

  ....………………………………………………………………………………………

  iii)   Hydrochloric acid

  ....………………………………………………………………………………………

8.   Name **two** type of mutation represented below.   **(2marks)**

  (i) Original strand   (ii) Mutated strand

  A   B   C   D   E   F   →   P   B   C   D   E   F

....

9.   a) Suggest the significance of the following adaptations in bony fish.

(i) Flexible vertebral column   **(1mark)**

(ii) Presence of swim bladder   **(1mark)**

  ....…………..

  b) State **two** features which reduce resistance in fish during swimming.   **(2marks)**
12.   The diagram below represents a type of bone in the mammalian skeleton.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

Neural spine

X

(a)   Identify the bone illustrated in the diagram.   **(1 mark)**

...............…………..

(b)   Give a reason for your answer in (a) above.   **(1 mark)**

...............…………..

13.   Study the diagram below and answer questions that follow
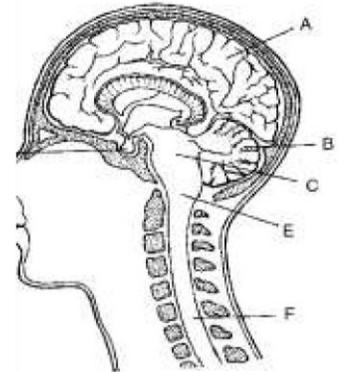
a) Name the parts labelled A**, B, C** and **D.**   **(2 marks)**

A. .... B...

C.. D...

b) Which of these structures is responsible for?

i) Regulation of heart beat   **(1 mark)**

....

ii) Reflex knee jerk   **(1 mark)**

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14.   The diagram below shows a front view of the iris and pupil of the eye.

Radial muscle
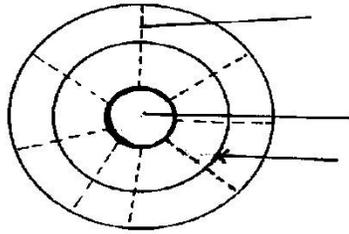
Pupil

Circular muscle

(a)   Complete the table below to show what happens to the structure shown when the eye is in. **(2marks)**

Structure	Darkness	Bright light
Radial muscles		
Circular muscles		

15.   List any **three** homeostatic functions of the kidney   (**3 marks**)

    ………
………
………
                …………………………………………………………………………

16.   Name the components of the blood that do not enter the renal tubule in mammals.**2marks**

    ……
    ……

17.   How are leaves of floating hydrophytes adapted for gaseous exchange   **(2 marks)**

    ……
    ……

18   a) State the role of each of the following in blood clotting process: **(3 marks)**

    Calcium
    ………

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Thrombokinase

....

Vitamin K

....

b) Strong winds speed up the rate of transpiration. Explain?   (**2 marks**)

…………………………………………………………………………………………………

…………………………………………………………………………………………………

19.   The student wrote the scientific name of a rat <u>RATUS NOVEGICUS</u>

a)   Give the specific and generic name

        Specific name……………………………………………….   (**1mark**)

        Generic name …………………………………………….   (**1mark**)

b)   Identify two mistakes in the name above.   (**2marks**)

…………………………………………………………………………………………………

…………………………………………………………………………………………………

22   State the role of the following requirement in germination   (**2marks**)

        a)   Light

.....................………………………………………………………………………………….

c)   Gibberelic acid

.....................………………………………………………………………………………..

23   Differentiate between complete and incomplete metamorphosis   (**2marks**)

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24.   a) Differentiate between irritability in plants and animals   (**2marks**)

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b) State the branch of Biology that would be used in solving the problem of disputed

parentage.   (**1mark**)

………

25.   Study the diagram below and answer questions that follow:
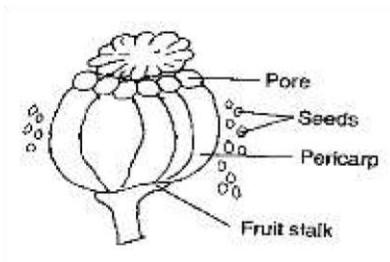
a)   Identify with reason the type of fruit above   (**2marks**)

Type of fruit

....

Reason

....

26   Explain how you would estimate the population of ***Bidens pilosa(black jack***) in your   school
garden using a quadrat method   (**4 marks**)

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....27.

How do the following factors affect active transport?   (**4 marks**)

Temperature

……………………………………………………………………………………………………...

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Metabolic inhibitors

…………………………………………………………………………………………....

……………………………………………………………………………………....

28   Explain how the following forces contribute to the movement of water up the xylem vessels.

(2marks)

a)Cohesion

…………………………………………………………………………………………

 b)Adhesion

…………………………………………………………………………………………

29.   The diagram below shows a phenomenon which occurs during cell division.
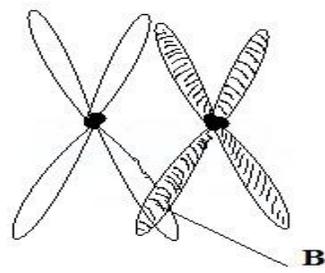
a) Identify the stage of cell division in which this phenomenon occurs.   **(1 mark)**

…………………………………………………………………………………………

b) State the importance of the phenomenon taking place in the part labeled **B**.**(2 marks)**

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……………………………………………………. ………………………………………………

30   Distinguish between tropism and taxes   **(2 marks)**

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31.   State **three** methods which could be used to determine the diet of wild animals is an

        ecosystem   **(3marks)**

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………………………………………………………………………………………32.

 i)Name the hormone which is released by the pituitary gland in high concentration on the 14th day of the menstrual cycle   **(1mark)**

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ii) State **two** functions of the hormone named in 19(i) above   **(2marks)**

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33.   Give **two** functions of the centrioles   **(2marks)**

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34   How is a gill filament adapted to its function?   **(3 marks)**

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K.C.S.E PREDICTION SET 2

231/2 BIOLOGY
PAPER 2 (THEORY)

SECTION A (40 MARKS)
Answer all questions in this section in the spaces provided

1. a) Apart from diffusion name two other methods of excretion in plants   (2 mks)

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    ……………………………………………………………
    ……
    ……………………………………………………………
    ……
    …

    b) State two economic importance of the following products of excretion in plants.

    (i)   Quinine.
    (1 mk)

    ……
    ……………………………………………………………
    ………………………………………………………………………

    (ii)   papain.
    (1 mk)

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    ……………………………………………………………
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    c) Describe what happens in the liver when blood level is above normal.   (4 mks)

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2. The diagram below represents the nitrogen cycle.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
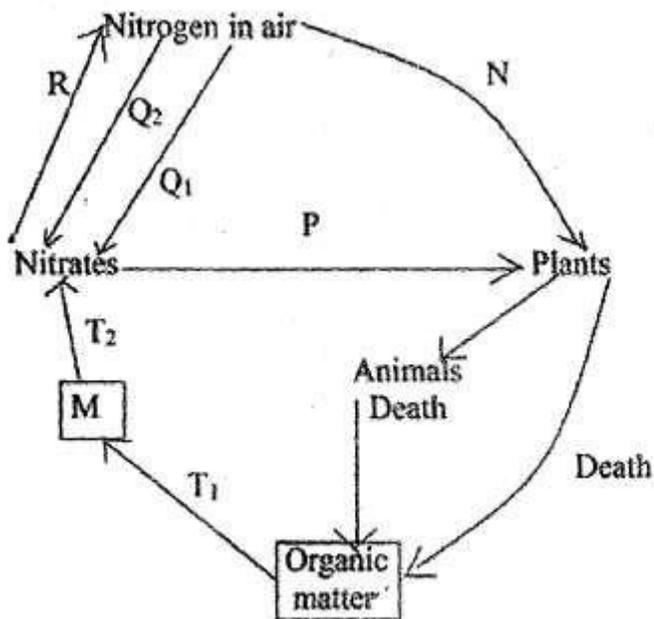
(a) Name the process labeled (3 mks)

P……..

T1……….
.

T2…….
.

(b) Name the organism that converts M into Nitrates (1 mk)

………
…………………………………………………………………
……………………………………………………………

(c) Name the organism in plants which promote process N. (1 mk)

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…………………………………………………………………
……………………………………………………………

(d) State the relationship the organism stated in C above and the plant. (1 mk)

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…………………………………………………………………
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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

(e) How would excess pesticides in the soil interfere with process N. (1 mk)

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…………………………………………………………
………………………………………………………………

(f) If Ql represents fixation of nitrogen by free living bacteria, what is represented by Q2 (l mk)

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3. (a) The diagram below shows part of a plant tissue.
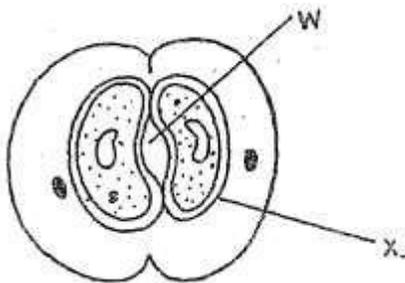
(i) Name cell labeled X and part labeled W. (2 mks)

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(ii) State two adaptations of cell labeled X to its functions. (2 mks)

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(b) (i) Name the kingdom to which the above structure is found. (1 mk)

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(ii) State three differences between Bryophyta and Pteriodophyta.   (3 mks)

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4. A cross between black bull and white cow produces a calf with black and white spots. Using letter B for Black and W to represent white trait

   (a) Work out the possible genotypes of a calf resulting from a cross between a black bull and a white cow.   (4 mks)

   (b) State the reason why the calf had black and white spots.   (1 mk)

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   (c) What is meant by the term allele.   (1 mk)

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……………………………………………………… …………………………………………………………

   (d) State two characteristic of an individual with Down's syndrome.   (2 mks)

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5. The diagram below represents human foetus in a uterus.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
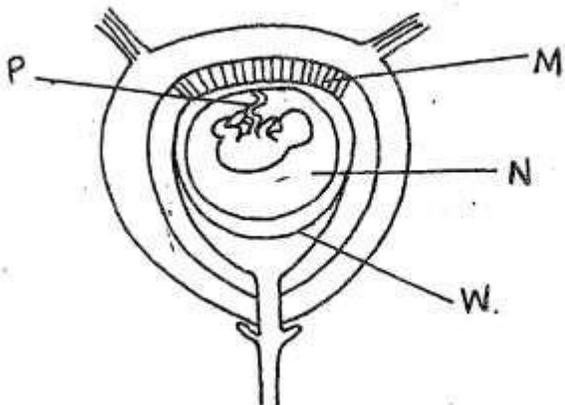
(a) Name the part labeled W. (1 mk)

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(b) (i) Name the type of blood vessels found in the structure labeled P. (2 mks)

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   (ii) State the differences in composition of blood found in vessel named in b (i) above.(2mks)

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(c) Name two features that enable the structure labeled M carry out its function. (2 mks)

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(d) State the role of part labeled N. (1 mk)

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SECTION B

Answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question
8.

6. An experiment was carried out to investigate plasmolysis in Onion epidermal cells. The cells were placed in different concentrations of sodium chloride solution. The percentage plasmolysed cells was determined after 30 minutes. The results were shown in the table below.

Salt concentration g, per 100cm³ (%)	0.30	0.35	0.40	0.45	0.50	0.55	0.60
Onion epidermal cells plasmolysed. (%)	0	10	25	55	78	92	100

(a) (i) On the grid provided plot a graph of plasmolysed epidermal cells against concentration.

(6mks)

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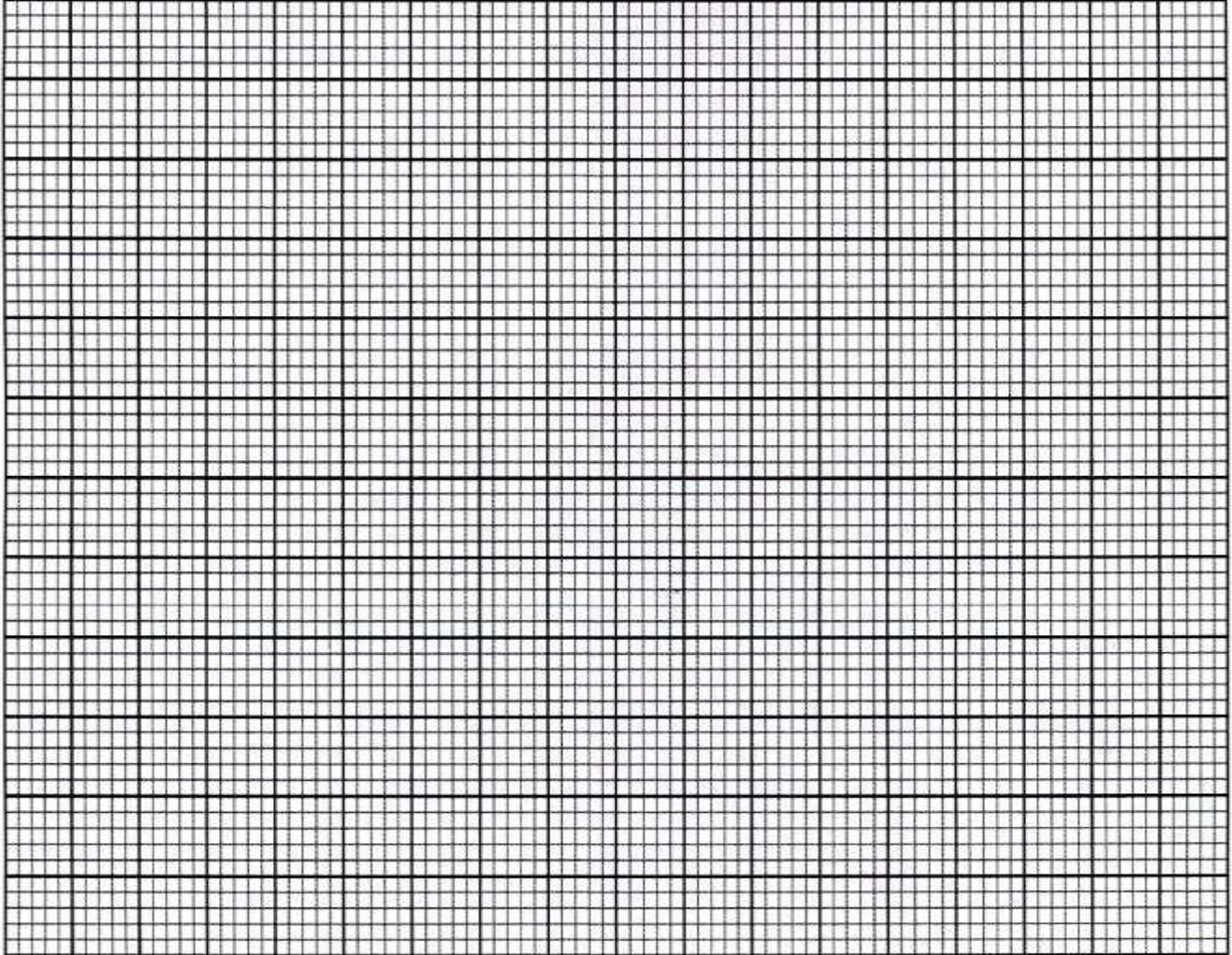
(ii) At what concentration of salt solution was the proportion of plasmolysed cells equal to non-plasmolysed cell. (1 mk)

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(iii) State the salt concentration at which 60% of the cells were plasmolysed. (1 mk)

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(b) Account for the results obtained at

(i) 0.30% salt concentration. (3 mks)

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(ii) 0.60% salt concentration. (3 mks)

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(c) (i) Define the term plasmolysis. (1mk)

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(ii) What would happen to animal cells if they are placed at 0.55% concentration for 30
minutes. (1mk)

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(iii) Explain your answer in c (ii) above. (2 mks)

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(d) Describe the relationship between concentration of the salt solution and the percentage of
plasmolysed cells. (1 mk)

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(e) What term would best describe a plant where 100% of its cells were plasmolysed. (1 mk)

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7. Describe the uptake and movement of water from the soil to the leaves of a tall plant till
transpiration.
(20mks)

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8. Describe the structure and functions of the various plants of a mammalian ear. (20mks)

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K.C.S.E PREDICTION SET 2

565/1
BUSINESS STUDIES
PAPER 1

1. Outline **four** business activities in your community. (4 marks)

   (a) ……………………………………………………………………………………………

   (b) ……………………………………………………………………………………………

   (c) ……………………………………………………………………………………………

   (d) ……………………………………………………………………………………………

2. Define the following: (4 marks)

   (a) Human wants

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

   (b) Goods

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

   (c) Choice

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

   (d) Opportunity cost

   ……………………………………………………………………………………………

   ……………………………………………………………………………………………

3. Outline **four** factors to take into consideration when planning an office layout. (4 marks)

   (a) ……………………………………………………………………………………………

   (b) ……………………………………………………………………………………………

   (c) ……………………………………………………………………………………………

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(d) ……………………………………………………………………………………………………

4. Highlight **four** means of payment that a trader can use to settle business debts. (4 marks)

(a) …………………………………………………………………………………………

(b) …………………………………………………………………………………………

(c) …………………………………………………………………………………………

(d) …………………………………………………………………………………………

5. State **four** difference between chain stores and departmental stores.   (4 marks)

	Chain Stores	Departmental Stores
(a)		(a)
(b)		(b)
(c)		(c)
(d)		(d)

6. Give **four** functions of money.   (4 marks)

(a) …………………………………………………………………………………………

(b) …………………………………………………………………………………………

(c) …………………………………………………………………………………………

(d) …………………………………………………………………………………………..

7. Outline **four** ways in which the government participates in training business people in the country.
                                                                          (4 marks)

(a) …………………………………………………………………………………………

(b) …………………………………………………………………………………………

(c) …………………………………………………………………………………………

(d) …………………………………………………………………………………………

8. State **four** disadvantages of mobile phone communication.   (4 marks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

(a) …………………………………………………………………………………………………

(b) …………………………………………………………………………………………………

(c) …………………………………………………………………………………………………

(d) …………………………………………………………………………………………………

9. State **four** benefits that may accrue to a community that engages in indirect production.

(4 marks)

(a) …………………………………………………………………………………………………

(b) …………………………………………………………………………………………………
(c) …………………………………………………………………………………………………

(d) …………………………………………………………………………………………………

10. Give **four** importance of product promotion. (4 marks)

(a) …………………………………………………………………………………………………

(b) …………………………………………………………………………………………………

(c) …………………………………………………………………………………………………

(d) …………………………………………………………………………………………………

11. The graph below represents the demand and supply curves of potatoes in Manyoro city.
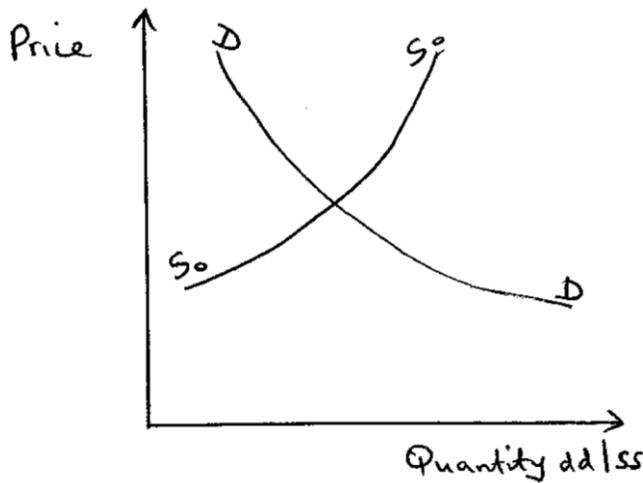
State **four** effects of a shift of the supply curve to the right. (4 marks)

(a) …………………………………………………………………………………………………

(b) …………………………………………………………………………………………………

(c) …………………………………………………………………………………………………

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(d) ……………………………………………………………………………………………

12. Outline **four** factors that may influence the choice of a distribution channel.   (4 marks)

(a) ……………………………………………………………………………………………

(b) ……………………………………………………………………………………………

(c) ……………………………………………………………………………………………

(d) ……………………………………………………………………………………………

13. The balance sheet of Octaph General Store as at 1st October, 2013 is given below.

OCTAPH GENERAL STORE
Balance sheet
As at 1st October, 2013

Assets	sh.	Capital + liabilities	sh.
Building	950,000	Capital	86,000
Equipment	12,000	Liabilities	
Stock	36,000	Bank Loan	70,000
Debtors	12,000	Creditors	9,000
Cash at bank	10,000		
	165,000		165,000

The following transactions took place in the business:
October 2:   Paid creditors by cheques sh 5,000
October 3:   Received from debtors sh 6,500 in cash.
October 4:   Bought more equipment for sh 4,500 and paid for them in cash.
October 5:   Bought shop fittings for sh 30,000 on credit.

Required:
Draw the balance sheet of the business as at 5th October, 2005.   (5 marks)

14. Given below are average prices of imports and average prices of exports for the year 2012 and 2013.

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Year	Average price of exports in '000	average price of imports in '000
2012	10,000	16,000
2013	15,000	26,000

Calculate:

(i) Export price index using 2012 as the base year. (2 marks)

(ii) Import price index using 2012 as the base year. (2 marks)

(iii) The country's terms of trade using 2012 as the base year. (2 marks)

15. Identity the type of journal in which each of the following transactions would be recorded.

(3 marks)

	Transaction	Type of journal
(a)	Purchase of an old tractor on credit	
(b)	Goods previously sold on credit were returned.	
(c)	Goods sold for cash	

16. "Consumer price indices (CPI) help in determining the extent of inflation in a country". Highlight **three** problems encountered in calculating consumer price indices in Kenya.

(3 marks)

(a) …………………………………………………………………………………………………

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(b) ……………………………………………………………………………………………

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(c) ……………………………………………………………………………………………

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17. Highlight **four** reasons why less developed countries tend to experience unfavourable terms of trade in international trade.   (4 marks)

(a) …………………………………………………………………………………………

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… (b)

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(c) ……………………………………………………………………………………………

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(d) …………………………………………………………………………………………

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18. Outline **four** principles of economic planning.   (4 marks)

(a) …………………………………………………………………………………………

(b) …………………………………………………………………………………………

(c) …………………………………………………………………………………………

(d) …………………………………………………………………………………………

19. The following transactions were extracted from the records of Sananka provision shop.   2006

April 2:   Started business by depositing a cheque of sh 250,000 in a business bank account.

April 9:   Withdrew sh 50,000 from the business bank account out of which sh 30,000 was used to purchase equipment and the rest was retained for office use.

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April 10:   Purchased stock on credit for sh 40,000 from Central Stores.

Required:

Enter the transactions above in the appropriate ledger accounts of the business.

(4 marks)

20. Highlight **four** factors that one may consider when evaluating a business opportunity.

(4 marks)

(a)   ……………………………………………………………………………………

(b)   ……………………………………………………………………………………

(c)   ……………………………………………………………………………………

(d)   ……………………………………………………………………………………

21. Despite the possibility of existence of economics of scale by expanding its operations a firm may choose to remain small in size. State **four** reasons why this could be so.   (4 marks)

(a)   ……………………………………………………………………………………

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(b)   ……………………………………………………………………………………

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(c)   ……………………………………………………………………………………

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(d)   ……………………………………………………………………………………

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22. Outline **four** advantages of a good transport system to a country.   (4 marks)

(a)   ……………………………………………………………………………………

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(b)   ……………………………………………………………………………………

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(c) …………………………………………………………………………………………

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(d) …………………………………………………………………………………………

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23. Give **four** reasons why a government imposes taxes. (4 marks)

(a) …………………………………………………………………………………………

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(b) …………………………………………………………………………………………

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… (c)

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(d) ………………………………………………………………………………………

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24. Highlight **four** principles of co-operatives. (4 marks)

(a) …………………………………………………………………………………………

(b) …………………………………………………………………………………………

(c) …………………………………………………………………………………………

(d) …………………………………………………………………………………………

25. The following information relates to Mambo Leo business
Mark up 20%
Opening stock sh 90,000
Closing stock sh 150,000
Rate of stock turnover 3 times

Calculate:
(a) Gross profit (2 marks)
(b) Purchases (1 ma

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K.C.S.E PREDICTION SET 2

565/2
BUSINESS STUDIES
PAPER 2

1. (a) Uhuru traders exhibited their products in Kisii ASK show. However sales did not increase significantly thereafter. **Outline five** reasons that may have led to the lack of significant sales increase. (10mks)

   (b) **Explain five** principles which guide the government in its expenditure. (10mks)

2. (a) Matatu business is a recent development in Kenya. **Discuss five** problems faced by the matatu operators. (10mks)

   (b) **Explain five** current trends and emerging issues in the banking industry. (10mks)

3. (a) **Explain five** challenges facing the savings and credit co-operative societies. (10mks) (b) As at 1st August, 2018, the cash book of Konga traders showed the following balances:

		Sh
Cash		15,000
Bank		4,000(CR)

   During the month, the following transactions took place.

   August 4   Mary a debtor, settled her account of sh.10,000 by a cheque of sh.

8,000 "   7 Deposited sh. 4,000 into business bank account from the cash till.

   "   8   Paid rent by cash sh. 4,000

   " 14   Cash sales sh. 14,000

   " 17   Purchased furniture sh. 3000 paying by cheque

   "   18 Settled Kofi's account sh. 10,000 who had allowed a discount of 5%.

   " 20   Received sh. 6000 cash from Kerubo

   " 22   Nyang'au , a debtor settled his account by cheque of sh. 4,000 having been

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allowed a discount of 20%

" 25   Deposited sh. 17,000 in the bank from private resources.

" 31   Banked the available cash except sh. 1,000

Draw up a three column cash book for the month.   (10mks)

4. (a) **Explain five** factors that determine the size of a firm.   (10mks)

(b) Manufacturers distribute their products to the final consumers through various channels. **Highlight five** factors considered in choosing a particular channel of distribution.   (10mks)

5. (a) **Explain five** circumstances under which a high population growth may be desirable. (10mks)
   (b) The following balances were obtained from the books of Kisii Mattress on 31st December, 2018.

	Shs
Opening stock	60,000
Equipment	96,300
Purchases	161,000
Sales	208,000
Land and building	100,000
Discount received	7,500
Return outwards	25,000
Return inwards	27,000
Salaries	22,000
Telephone charges	5,000
Water bills	2,100
Creditors	15,000
Debtors	21,000
Electricity bill	2,000
Bank balances	68,000
Cash in hand	12,000
Drawings	19,500
Insurance paid	1,500

Additional information

(i) Closing stock was valued at shs. 72,000

(ii) Depreciation on equipment is 10% p.a. on cost

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(iii) Telephone charges prepaid shs. 1,100

(iv) Outstanding water bill shs. 1,300

(v) Carriage inwards shs. 11,000 carriage outwards shs. 10,000

    Required

  Prepare Kisii Mattress profit and loss account for the year ended 31st December, 2018.

(10mks)

6. (a) **Explain five** factors that have frustrated economic development in a developing country like Kenya for the last few decades.   (10mks)

    (b) **Highlight five** measures that the Kenya government should take to control   the high rate of inflation.   (10mks)

K.C.S.E PREDICTION SET 2

233/1

CHEMISTRY

1. Study the information represented in the table below and answer the questions that follow

Element	Atomic radii (nm)	Ionic radii (nm)
P	0.153	0.185
Q	0.184	0.211
R	0.230	0.260
S	0.260	0.305

(a)   Would the element form part of a period or group. Explain
            (2marks)

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(b)   Which one is the most reactive element?   (1 mark)

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2. Copper (II) chloride solution and graphite are both capable of conducting electricity. What is the major

difference between the two substances in their electrical conductivity?   (2 marks)

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3. (a)   State Graham's law of diffusion   (1 mark)

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(b) A certain volume of gas j takes 180 seconds to diffuse through porous plug. Molar mass of J is 18g.

Equal volume of gas Q takes 240 seconds to diffuse through the same plug. Calculate the molar

mass

of Q.   (2 marks)

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4. Name One piece of apparatus a student could use to measure accurately 0.1 cm^3 of sulphuric (VI) acid

(1 mark)

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....The
sketch below shows the change in mass against time where fixed mass of calcium carbonate is
reacted with excess dilute hydrochloric acid at 25.0^0C
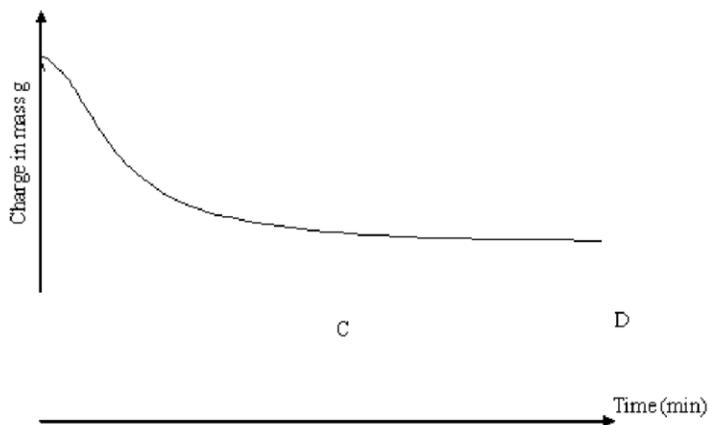
(a)   On the same axis sketch the curve that would be expected when the experiment was repeated at 40^0

C.   (1
mark)

....
....

....

(b)   Explain why the part of the graph CD is horizontal   (1
mark)

....
....

....One

mole of hydrogen chloride gas reacts with an organic compound R to give a simple product with
structural formula shown below

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
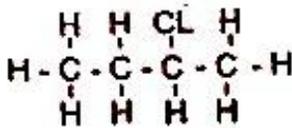
(a)   Give the name of the product   (1 mark)

....

....

(b)   Draw the structural formula of compound R   (1 mark)

....

....

(c)   To which homologous series does compound R belong?   (1 mark)

....

....

4. A student set- up the apparatus shown below attempting to collect oxygen gas
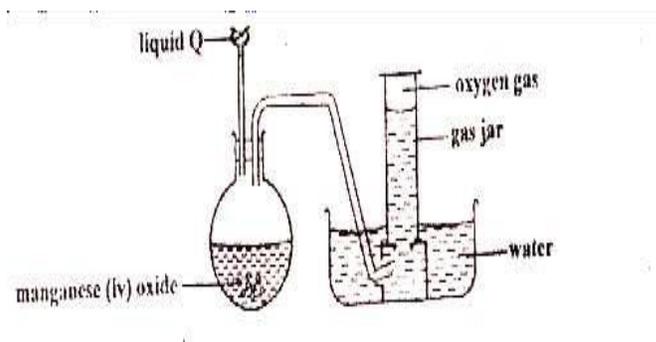
(a)   State one mistake the student made   (1 mark)

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....

(b)   Identify liquid Q   (1 mark)

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....

(c)   What property- enable the gas to be collected as shown above   (1 mark)

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8.   Below is the Redox reaction that takes place when manganese (IV) oxide reacts with dilute
       hydrochloric acid to liberate chlorine gas

$MnO_{2(s)} + 4HCl_{(aq)} \longrightarrow MnCl_{2(aq)} + 2 H_2O_{(l)} + Cl_{2(g)}$
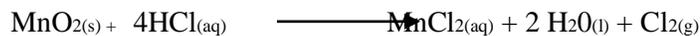
(a)   Explain using oxidation numbers which species is reduced   (1
        mark)

....

....

(b)   State one other reagent that can be used to prepare chlorine gas other than manganese (IV) oxide

                                                                                                                                      (1
        mark)

....

....

(c)   Other than water treatment, state one other use of chlorine   (1
        mark)

....

....

9.   When $Na_2CO_3 . XH_2O$ is heated strongly it losses 63.20% of mass. Calculate the value of x

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(3 marks)

(Na = 23.0, C= 12.0, O = 16.0, H = 1.0

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10.   Some sodium chloride was found to be contaminated with lead (II) oxide. Describe how a sample of sodium chloride can be obtained from the mixture.   (3 marks)

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11.   The flow chart below shows some process involved in extraction of lead metal. Study it and answer the   questions that follow
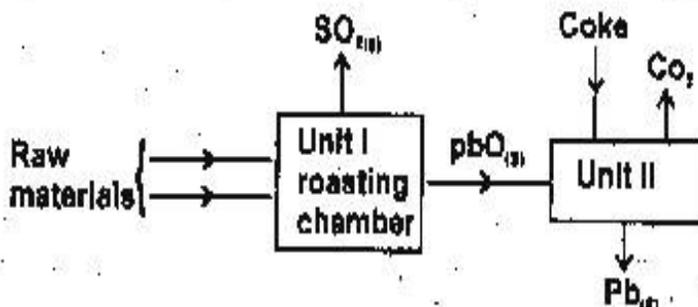
(a)   Name the two raw materials that were fed into unit 1   (2 marks)

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....

....

....

(b) State one environment hazard associated with the process in unit 1   (1 mark)

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....

12. Explain why a crystal of Iodine can be vaporized by gently warming in a test tube whereas graphite has to be heated to a temperature of over 3700^0C before it vaporizes   (2 marks)

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13. The set up below was used to investigate the effect of stem on copper turnings
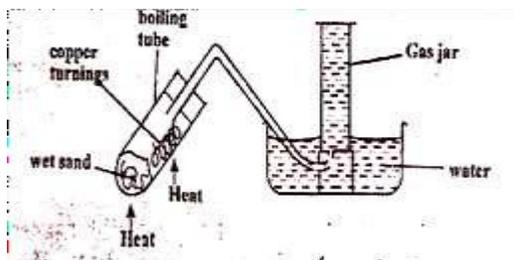
(a) What was observed in the boiling tube? Explain   (2 marks)

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....

(b) Suggest one other metal that would behave as copper turnings in the above

set up if used (1 mark)

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14. A piece of magnesium ribbon is placed in a solution of copper (II) sulphate. State and explain the observation made (2 marks)

....

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....

....

15. The equation of a reaction between sodium hydroxide and sulphuric (VI) acid is

$2NaOH_{(aq\_} + H_2SO_{4(aq)} \longrightarrow Na_2SO_{4(aq)} + 2H_2O_{(l)}$

How many cm^3 of 0.05m sodium hydroxide solution reacts with $25cm^3$ of 0.1M sulphuric (VI) acid .

(3 marks)

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16. Hydrogen sulphide gas is bubbled into two solutions of metallic nitrates as represented in the flow chart

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
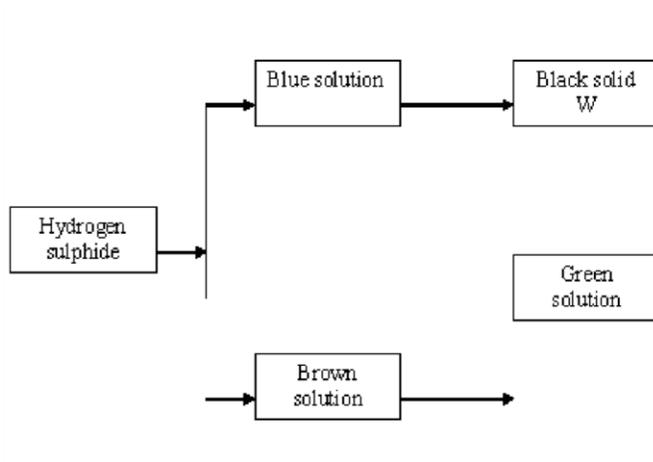
a)   Identify the cation present in:

   I. Blue solution   (1 mark)

....
...

....

   II. Brown solution   (1 mark)

....
...

....

   (b)   equation for the formation of green solution Q   (1mark)

....
...

....

17.   Both sodium hydroxide pellets and sodium carbonate were left exposed to atmospheric air

          overnight. The observations that took place are as shown below

          $NaOH_{(s)}$ $\cancel{NaOH}_{(aq)}$
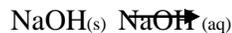
$Na_2CO_3. 10H_2O_{(s)}$ $Na_2\cancel{CO_3}H_2O_{(s)} + 9H_2O_{(l)}$ (2 marks)
          Identify the process

          A . ...

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

B..

18.   Polyethene is a synthetic polymer   (1 mark)

    (i)   Draw a unit structure of polyethene

    (ii)   What type of polymerization takes place during the formation of   polyethene. (1 mark)

    ....

    ....

    (iii)   State one disadvantage of synthetic polymers over natural polymers .   (1 mark)

    ....

    ....

19.   Complete the table below

Species	Atomic mass	Number of neutrons	Number of electrons	Number of protons
V_{3+}	27			
Q_{2-}				16

20.   M grams of radioactive isotope decayed to 5 grams in 100 days. The half life of the isotope is 25 days

    (a)   What is meant by half – life   (1 mark)

    ....

    ....

    ....

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

(b)   Calculate the initial mass M of the radioactive isotope   (2 marks)

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....

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....

....

21.   Study the table below and answer the questions that follow

Element	Q	R	S	T
Electronic configuration	2,8,4	2,8,2	2,8,1	2,8,6

(a) Select the element which forms

(i)   A double charged cation   (1 mark)

....

....

(ii)   A carbonate that does not decompose on heating   (1 mark)

....

....

(b)   What is the nature of solution formed by the oxide of T   (1 mark)

....

....

22.   Consider the chromate (VI)/ Dichromate (VI) equilibrium system described by the ionic equation

below

$$2CrO_{4(aq)}^{2-} + 2H^+_{(aq)} \longrightarrow Cr_2O_7^{2-} + H_2O_{(l)}$$

Yellow   orange

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

(a)   What is meant by equilibrium system   (1 mark)

....

....

23.   What observation would be made when $NaOH_{(aq)}$ solution is added to the mixture above. Explain

(2 marks)

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....

....
... . The table below gives some properties of the chloride of period three elements A,B and C. Study it and answer the questions that follow

Chloride of element	Melting point	Boiling Point
A	-101	-35
B	714	1407
C	-7	60

(a)   Name the type of bond that most likely exists in the chloride of A   (1 mark)

....

....

(b)   What type of bond exists in chloride of element B   (1 mark)

....
....

....

24.   The diagram below shows an incomplete set-up for preparation of carbon (IV) oxide

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
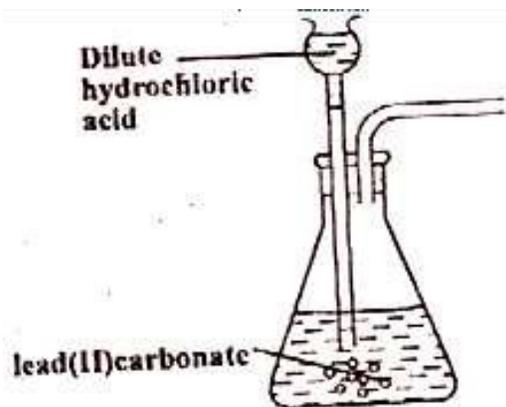
(i)   Explain why it is not suitable to use lead(II) carbonate in the above set – up .   (1 mark)

....
....

....

(ii)   Complete the diagram   to show how carbon (IV) oxide can be Collected   (1 mark)

....
....

....

iii)   Give two reasons why carbon (IV) oxide is used in fire extinguishers   (1 mark)

....
.... The

curve below represents solubility of potassium nitrate

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657
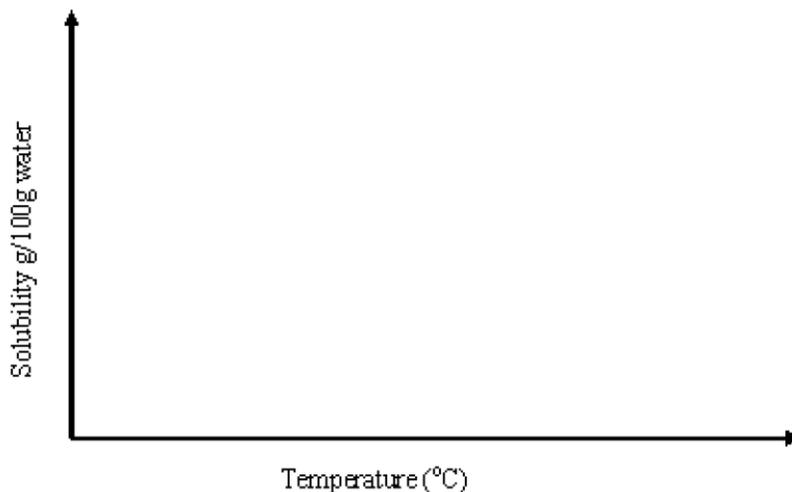
(a)   What is meant by solubility?   (1 mark)

....
....

....

....

b)   On the same axis, sketch a curve to show solubility of hydrogen sulphide gas.

Explain the shape of your curve   (2 marks)

....
....

....

26.   (a) Calcium nitrate is a nitrogenous fertilizer. Calculate the percentage of nitrogen in the fertilizer.

(N=14.0, Ca = 40.0, O = 16)   (2 marks)

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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

(b)   State one physical property that makes solid calcium nitrate a good fertilizer. (1 mark)

....

....

....

27.   Dry ammonia gas was passed over heated copper (II) oxide as shown below
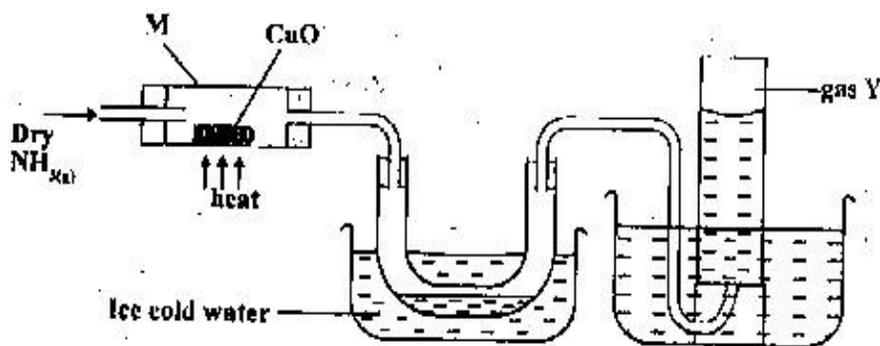
(a)   State one observation made in tube M   (1mark)

....

....

(b)   Name a suitable drying agent for ammonia gas   (1 mark)
....
....

....

....

(c)   Identify gas Y   (1
        mark)

28.   Complete the table below   (2
        marks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

Indicator	Colour in	
	$H^+_{(aq)}$	$OH^-_{(aq)}$
Phenolpthalein		
Methylorange		

28. When 2g of solid sodium hydroxide were reacted with $200cm^3$ of 0.55M hydrochloric acid, the temperature was 1.3^0C. Calculate the molar heat of neutralization (Specific heat capacity of solution is $4.2J/g/k$, density of solution $= 1g/cm^3$)

    3mark

    ....
    ....

    ....

    ....

29. Methane burns as shown in the equation below

    $CH_{4(aq)} + 2O_{2(g)} \longrightarrow CO_{2(g)} + 2H_2O_{(l)}$

30. Find the minimum volume of air containing 20% by volume of oxygen which will be required to completely burn $100cm^3$ of methane   (3marks)

    ....
    ....

    ....

    ……...

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

K.C.S.E PREDICTION SET 2

233/2

CHEMISTRY

PAPER 2

1.   Use the flow chart to answer the questions.
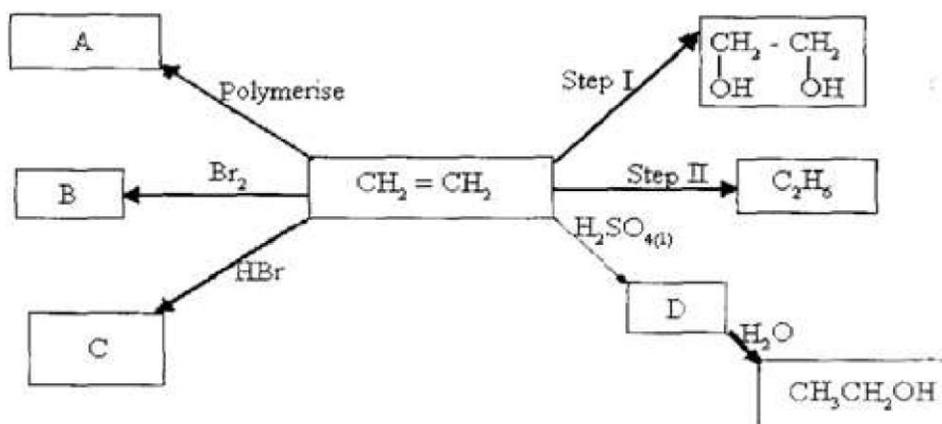
i) State the conditions and reagents required to effect Step I and Step II. (2marks)

………
…

………
…

……

… ii) Give the formulae of the products **A, B, C** and **D.**

………
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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

……

. b) Natural rubber has the formula.
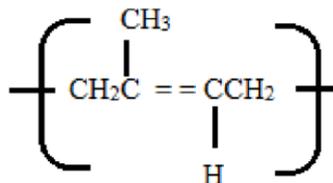
It has a molecular mass of 102000. How many units make up natural rubber?

(2marks) (C=12, H=1)

c) If one mole of sugar, $C_6H_{12}O_6$, produces two moles of pure ethanol, C_2H_5OH and two moles of Carbon (IV) oxide gas as the only products.

i) Write an equation for the reactions. (1 mark)

………
……………

……

. ii) Find how many moles of ethanol would be produced by 148.8kg of sugar.

(3marks)

2. (a) The grid below represents part of a periodic table. Study it and answer the questions that follow. The letters do not represent the actual symbols of elements.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

S				R	E		X		
Q	Z							V	
						M			
							T		

i) Identify the most reactive non-metal (1mk)

………
………
.

ii) Which of the metals is most reactive? Explain.
(1mk)

………
.

………
.

iii) What name is given to the family of elements to which elements **X** and **T** belong.
(1mk)

………
………
.

iv) Give reasons for the following

a) Ionic radius of **Q** is smaller than that of **M.**
(1mk)

………
.

………
.

b) Atomic radius of **Q** is greater than that of **S.**
(1mk)

………
.

………
.

v) Give an element which does not form compounds under ideal conditions. Explain.
(2mks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

………
……………

……

. vi) Give the formula of the compound formed between element **R** and **Z**.
(1mk)

……
.
……
.

b) Study the table below and answer the questions that follow.

Substance	A	B	C	D	E	F
Mpt^{0}C	801	119 113	139	-5	-101	1356
Bpt^{0}C	1410	445	457	54	-36	2860
Electrical conductivity (solid)	Poor	Poor	Good	Poor	Poor	Poor
Electrical conductivity (liquid)	Good	Poor	Good	Poor	Poor	Poor

i) Identify a substance with

a) Giant metallic structure.
   (1mk)

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.
……
.

b) Simple molecular structure.
   (1mk)

……
.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

………

. ii) Suggest a reason why substance **B** has two melting points.

(1mk)

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.

iii) Substance **A** and **C** conduct electric current in the liquid state. State how the two substances differ as conductors of electric current. (2mks)

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3. a) Sodium hydroxide pellets were accidentally mixed with sodium chloride-18.2g of the mixture was dissolve in water to make one liter of solution. 100cm3 of the solution was neutralized by 50cm^3 of 0.45M Sulphuric acid.

i) Write an equation for the reaction that took place. (1mark)

………
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………
.

ii) Calculate the;

I. Number of moles of the substance that reacted with sulphuric acid. (1 mark)

II. Number of moles of the substance that would react with sulphuric acid in the one litre of

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

solution. (1 mark)

III. Mass of the unreacted substance in the one litre of solution.
(2marks) (H = 1.0, Na 23.0, Cl 35.5, 0 = 16.0)

b) The diagram below shows an incomplete set-up used to prepare and collect ammonia gas.

Solid P + Potassium hydroxide
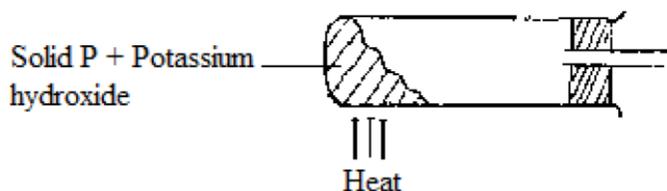
Heat

i) Name solid P.
(1mark)

………………………………………………………………………………………………………
.

………………………………………………………………………………………………………
.

ii) Complete the diagram to show how a dry sample of ammonia gas can be collected. (3 marks)

c) In an experiment, excess ammonia gas was passed over heated copper (II) oxide in a combustion tube.

i) State the observation that was made in the combustion tube at the end of the experiment. (1mk)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

……
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. ii) What property of ammonia is shown in the above reaction?

(1mark)

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iii) Give one use of ammonia.
(1mark)

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.

4.   a) The flow chart below shows a sequence of reactions starting with iron. Study it and answer the
questions that follow;
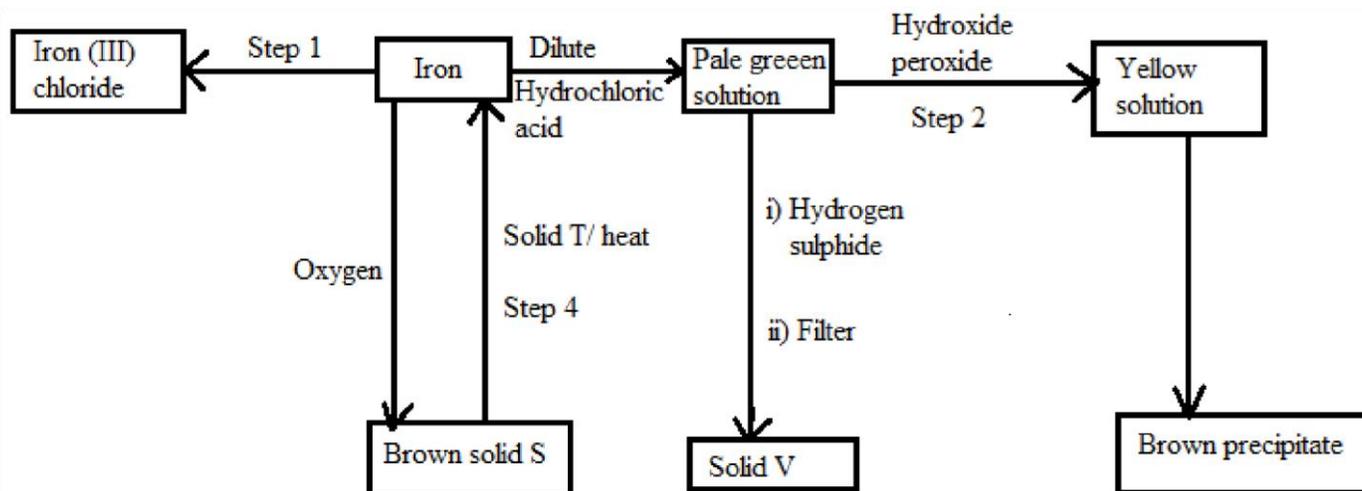
i) Name the reagents and state the condition for the reaction in Step 1.   (2
marks)

Reagent
……
……………

Condition

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

……
.

……

. ii) Give the names of the following. (3

marks)

I.   Solid **S**

……
.

II. Solid **V**

……
.

III. Solid **T**

……
.

iii) Give reasons for the colour change in step 2.
(2marks)

……
.

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……

. iv) Write an ionic equation for the reaction which takes place in step 3.

(1rnark)

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.

v) Name one other substance that could be used instead of sodium hydroxide in Step 3.
(1mark)

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………
.

b) In an experiment, 3.36g of iron fillings were added to excess aqueous copper (II) sulphate,

Calculate the mass of copper that was deposited. (Cu = 63.5, Fe 56.0)   (3marks)

5.   The following flow diagram shows a summary of a process that was used to prepare and investigate the properties and products of a particular gas. Study it and then answer the questions that follow:

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

```
Magnesium ──────────┐
                    ├──→  Gas L    +   Substance M
Aqueous Sulphuric ──┘
(vi) acid

              Process R  ←──── Oxygen

                    ↓
                 Liquid S
                    │
       ┌────────────┴────────────┐
       ↓                         ↓
Metal N → Calcium Hydroxide    Y + Z  ←── Chlorine Gas
              ↑
            Gas A              Purple Extract from a flower
              ↓                         ↓
         White PPT, P                   Q
              ↑
            Gas A
              ↓
      Colourless solution R
```
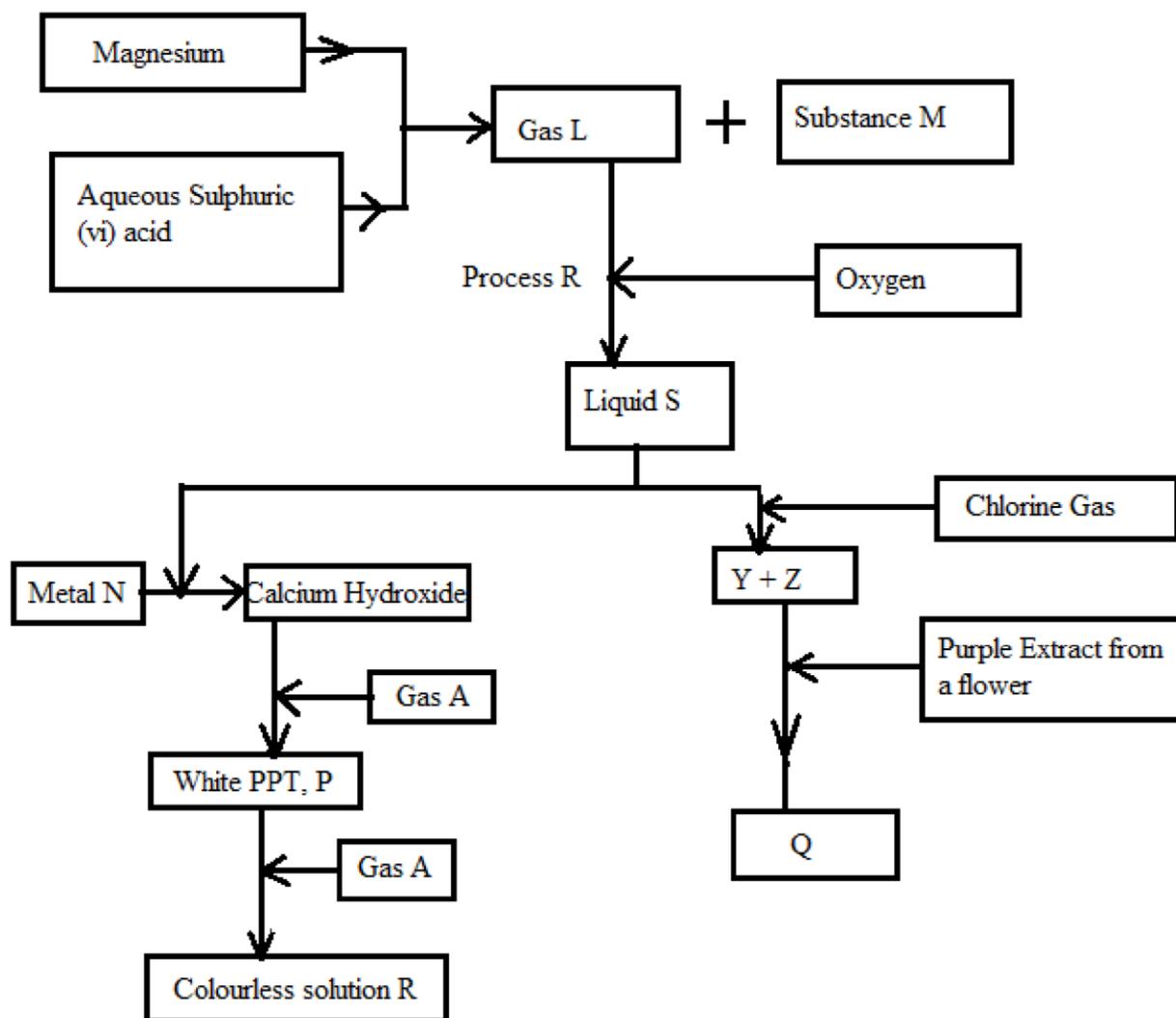
a) i) Identify the following;

I. Gas L   (1mark)

………
.

II. Substance M   (1mark)

………

. ii. Write a chemical equation for the formation of Gas **L** and substance **M**.
(1mark)

………
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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

……
.

b) Identify liquid **S** and write an equation for its formation. (1 ½ marks)

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Write equations for the formation of **P** and **R.** (2 marks)

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.

c) i. What is the collective name of substance **Y** and **Z**? (1mark)

……
.

……

. ii. Identify **Q** and write an equation for its formation. (1 ½ mark)

……
.

……

. iii. By use of a chemical equation show how metal **N** reacts with liquid **S**. (1 mark)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

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6.   The following table gives standard electrode potentials for a number of half cell reactions.

$$E^\theta \text{ volts}$$

Zn^{2+} (aq) +2e^- ⟶ Zn(s)   -0.70

Fe^{2+} (aq) + 2e^- ⟶ Fe(s)   -0.44

I_2 (g) + 2e^- ⟶ 2 I^-(aq)   + 0.54

Fe^{3+} (aq) + e^- ⟶ Fe^{2+} (aq)   -0.77

Ce^{4+} (aq) + e^- ⟶ Ce^{3+} (aq)   + 1.61

To which half equation are these electrode potentials expressed.   (1 mark)

………
.

………
. a) Which of the substances listed above is;

i) Strongest oxidizing agent
(1mark)

………
.
………
. ii. Strongest reducing agent.   (1 mark)

………
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………
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b) i. Which substance(s) in the table could be used to convert Iodide ions to Iodine.   (2 marks)

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………
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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

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.

ii. Write a balanced equation for one possible conversion in b (i) above.
(2marks)

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.

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.

c) A half cell is constructed by putting a platinum electrode in a solution which is 0.1 M with

respect to Fe^{2+} and Fe^{3+} ions. This half cell is connected by means of a salt bridge to another half

cell containing a non electrode in a 1.0M solution of Fe^{2+} ions.

i. Write the diagrammatic representation of the cell.
(1mark)

ii. If the electrodes are connected externally, what reactions will take place in each cell? (2

marks)

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.

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……

. iii. What is the e.m.f. of this cell in c (ii).   (1

mark)

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.

7.   The table below gives some properties of three salts; **D, E** and **F.**

Salt	D	E	F

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

Solubility	Insoluble	Soluble	Soluble
Effect of heat	Decomposes forming a white residue G and a colourless gas H. Gas H forms a white precipitate with lime water.	Decomposes to form a yellow residue and two gases I and J. Gas I is reddish - brown and Gas J is colourless.	Dissociates into two gases. K and L. Gas K turn wet litmus paper blue. Gas K and L readily recombine on cooling to form dense white fumes of slat F.

Further tests showed that when residue G was reacted with water and the product heated with salt F, gas K was evolved. When D reacted with nitric (V) acid, there was effervescence. The resulting solution formed a white precipitate with dilute Sulphuric (VI) acid, but not with hydrochloric acid.

a) Identify

i) Gas **H**
(1mk)

……….

………
. ii) Gas **I**　　　(1mk)

………

iii) Salt **D**
(1mk)

……

iv) Salt **F**　　　(1mk)

………
.

………
.

b) Write an equation for the thermal decomposition of **D**.
(1mk)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

……
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……
.

      c) Name the compound formed when **G** is reacted with water.
        (1mk)

………
.

……
.

      d) A Solution salt reacted with an aqueous solution gas **L** forming a white precipitate that
         dissolved when warmed.

    i) Write an ionic equation for the formation of the white precipitate.   (1mk)

………
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………
     . ii) Write the formulae of the ions that are present in salt **E**.

     (1mk)

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………
.

      e) Explain what would be observed if the sodium hydroxide was added to a solution of **E** ,drop

wise till in excess.   (1mk)

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.

………
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………
.

      f) Write a chemical equation for the effect of heat on **F**.
        (1mk)

………

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

K.C.S.E PREDICTION SET 2

451/1

COMPUTER STUDIES

Paper 1

This paper consists of 12 printed pages.

Candidates should check the question paper to ensure that all pages are printed as indicated

and no questions are missing

SECTION A (40 MARKS)

Answers ALL the questions in this section in the spaces provided.

1.   One function of an operating system is to control computer resources. State **four** resources under operating system control   (2 marks)

   ………

   ………

   ……

   ……

   ………

2.   a) What do you understand by the term plotter in relation to computer   (2 marks)

   ………

   ………

   ……

   ………

   b) List two types of plotters   (1 mark)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

………

………

………

3 Explain the following terms as used in the word processing   (4 marks) a) Indenting

………

………

…………………………………………………………………………………………………… b)

Alignment

………

………

…………………………………………………………………………………………………… c)

Foot note

………

………

…………………………………………………………………………………………………… d)

Endnote

………

………

………

4.   List three application areas of artificial intelligence.   (3 marks)

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5.   Differentiate between COM ports and LPT ports.   (2 marks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

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6.   List **three** factors to consider when deciding on the choice of an electronic data processing

method.   (3 marks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

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7.   Ventilation is an important practice in the computer lab because it enhances proper circulation of air. Outline **three** ways in which air is regulated in the computer room.   (3 marks)

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8.   Explain **two** types of optical disks in the market today   (4 Marks)

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………………………………………………………………………………………………………

9.   What does the following control measures against computer crime involve?   (4 marks)
      a) Audit trail

………
………
…… b)
Data encryption

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……
……
…………………………………………………………………………………………………… c)

Log files

………
……

…………………………………………………………………………………………………… e)

Passwords

……
……
………

10. Differentiate between softcopy output and hardcopy output   (2 marks)

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………
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……

11. What is the function of 'what if' in spreadsheet program   (1 marks)

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12. State **two** files that are created in mail merging process   (3 marks)

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13.   While purchasing computers for his school the principal Mwongori high school decided to consult an expert. As a computer student advise him on **four** hardware considerations (2 marks)

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14.   Name four methods used in data management on a worksheet   (2 marks)

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15.   What do you understand by the term embedded chart in spreadsheets?   (2 marks)

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SECTION B. (60 MARKS)

Answer question 16 and Any other three questions

16.   a).   Study the pseudocode below and design a flowchart for it.   (8 marks) i.   Set total to zero

        ii.   Set grade counter to one

FOR MORE RESOURCES CALL: 0705525657

……

     iii.   While grade counter is less or equal to ten, Input the next grade

     iv.   Add the next grade into total

     v.   Add one to the grade counter

     vi.   Set the class average to the total divided by ten

     vii.   Print the class average.

b).   Describe **three** methods of testing the program for errors.   (3 marks)

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c).   List down **four** selection controls used in writing a program   (2 marks)

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d.   Outline **four** benefits of modular programming   (2 marks)

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17   a).   Convert the following numbers of their decimal equivalent   (6

marks) a). 111.10101_2

b). 245_8

FOR MORE RESOURCES CALL: 0705525657

c). 67BH

b). Outline **four** ways in which data integrity may be maintained (4 marks)

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c). Discuss **four** advantages of using questionnaires as a fact-finding tool (4 marks)

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d). What is the role of a recycle bin in Ms. Word? (1mark)

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18. a). List **three** advantages of fiber optic cables   (3 marks)

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b). Differentiate between static RAM and dynamic RAM.   (4 marks)

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c). Describe the following types of queries found in Ms. Access   (3 marks) i). Update

……

……

……

ii). Append query

……

……

……

iii).   Make table query

……

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……

d). Distinguish between source program and object code   (4 marks)

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e). Distinguish between a mouse pointer and an insertion point   (1 mark)

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19.   a).   Outline **four** major ways the company network administrator can enforce good network

practice on user of the company LAN   (4 marks)

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b).   Identify **four** major categories of data handling process which make up a computer

system   (2 marks)

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c). Outline **four** contents of user manual that would help the user to run the system with minimal guidance

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d). Distinguish between dynamic and static systems   (2 marks)

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e). List **three** programming languages that can be used by web developers   (3 marks)

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20. a). Borabu Teacher's college has decided to embrace ICT in offering its services. State four ways how it will help learners in the institution. (4 marks)

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b). Define the following terms in relation to internet (4 marks)

i). Downloading

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ii). Hyperlink

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iii). Web browsers

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iv). Internet service providers

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c). Differentiate between sign in and sign up in email.   (2 marks)

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d). Define the following terms   (3 marks) i). Spam mail

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ii). Disk

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iii). On board modem

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………

e)   Define the term WIMP as used in computing.   (2 marks)

K.C.S.E PREDICTION SET 2

451/2

COMPUTER STUDIES

PAPER 2

PRACTICAL

1. (a) Type the text below as it is into a word processor software   (18mks)

System development

For four purposes, the implementation process runs from the point when the systems design has been formally approved to the point when the new system is in place, ready to be used. As mentioned   above, a decision could have been made to acquire commercial software for implementing the new   system.

The following are the major activities which comprise the implementation process

(1) Develop detailed programming specifications

(2) Develop test specifications and test data

(3) Write computer programs

(4) Test computer programs

(5) User testing

(6) File conversion

(7) Change over to the new system

Again, there is usually significant overlap among the above activities, For instance, file conversion may proceed while programs are being written.

DECISION TABLE

A decision table allows an analyst to set out a clear way in what could be a confusing situation.

		1	2	3	4
Conditions	Purchaser is a member	T	T	F	F
	Purchaser exceed ksh. 1000	T	F	T	F
Actions	15% discount	☐			
	10% discount		☐		
	7% discount			☐	
	No discount				☐

(b)

(i)   Centre and underline the title   (2mks)

(ii) Change font size of the headline to 25pts   (1mk)

(iii) Change the case of the headline to title case   (1mk)

   (c) Insert this text as the page footer in Italic, "System development life cycle". Place

      it at the left of the page.   (4mks)

   (d) Spell check your document   (4mks)

(e) Save your document as SDLC FILEI   (2mks)

(f) Excluding the title, set your document to be in two columns to the beginning of the

   subtitle, "decision table"   (5mks)

(g) Double space the first paragraph of your document   (3mks)

   (h)

(i)   Expand the title by 10pts in character spacing   (4mks)

(ii) Use dotted line to underline your headline   (3mks)

(iii) Save your document as SDLC F2 (2141 (S)

(iv) Print SDLV FI and SDLC F2   (2mks)

Q2

The data in the tables below was obtained from various insurance companies

Table 1: Insurance policy

Policy category	Policy types
PC01	LIFE
PC02	VEHICLE
PC03	HOUSE

Table 2 Customer

NAME	GENDER	MONTHLY CONTRIBUTION	REGNO	INSUARER ID	POLICE CATEGORY	TEL NO
JIM	M	7000	8790	101	PC02	0754233445
ALICE	F	5000	9094	102	PC03	0724345765
JOHN	M	7500	6790	101	PC01	0728567654
JANE	F	6700	8950	101	PC02	0734543321
BEN	M	5000	7980	103	PC01	0721564786
PAUL	M	6500	7956	104	PC03	0753213456

Table 3 insuring company

Company id	Company name
101	WORLD WIDE
102	PROMISE
103	GATEWAY
104	EASY

(a) (i) Create a database named INSUARANCE   (2mks)

(ii) Create the three tables above in your database   (12mks)

(iii) Create relationships between the tables   (3mks)

(iv) Create and use forms to enter data into the tables.   (12mks)

(b) (i) Generate a report to display the name. Gender, policy type and company name (8mks)

    (ii) Create a query to display total monthly contribution made by WORLDWIDE

        company (4mks)

(c) (i) Using a query, display the customer's name, contribution, policy category, and

      company name (5mks)

(d) Print

(i) Your tables (3mks)

(ii) Report (1mk)

(iii) Two queries (2mks)

K.C.S.E PREDICTION SET 2

313/1
CHRISTIAN RELIGIOUS EDUCATION
PAPER 1

1. a) Outline any six reasons why the Bible is referred to as a library. (6mks) b) Explain any four similarities between the two accounts of creation in Genesis 1 and 2 (8mks)

c) State six ways in which Christians continue with Gods work of creation today. (6mks)

2. a) Give eight conditions for the renewal of Sinai covenant. (Ex. 34:11 – 36) (8mks)

b) Outline the importance of the Exodus to the Israelites. (7mks)

c) State ways in which Christians show their respect to God today. (5mks)

3. a) From the story of Naboth's vineyard, explain four commandments that king Ahab and queen Jezebel broke. (6mks) b) Describe six ways in which King Solomon promoted Idol worship in Israel (6mks)

c) What lessons can modern Christian's leaders learn from King David's leadership? (8mks)

4. a) Explain how the prophetic messages were written (8mks) b) Give six forms of punishment that Amos prophesied for Israel and Judah (6mks)

c) Identify six ways used by the church to punish its errant members (6mks)

5. a) State the promises made by the Israelites during the renewal of the covenant by Nehemiah. (Nehemiah 10:20 – 29) (7mks)

b) Give six reasons why Nehemiah advised the separation of the Jews from the foreigners. (6mks)

c) Identify seven lessons leaders can learn from Nehemiah (7mks)

6. a) Describe the traditional African practices which demonstrate peoples belief in God.(8mks)

b) State six characteristics of African communities (6mks)

c) Show how the western culture has affected the Traditional African Communities (6mks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

K.C.S.E PREDICTION SET 2

313/2
CHRISTIAN RELIGIOUS EDUCATION
PAPER 2

1. a) With reference to Luke 1:57 – 66, describe the incident when John the Baptist was born.

   (8mks) b) Give an outline of how John the Baptist prepared the way for the Messiah.

   (6mks)

c) State seven ways by which the church in Kenya assist in molding the character of the youth

   (6mks) 2. a) Describe an episode in which Jesus healed an evil possessed man in Capernaum.(Luke

4:31-37)(7mks)

b) Give seven reasons why Jesus identified himself with the sinners during his public ministry   (7mks)

c) Identify six causes of human suffering in the society today   (6mks)

3. a) Outline Jesus' teaching on conditions of disciples   (8mks) b)

Narrate the parable of the rich fool (Luke 12:13 – 21)   (6mks)

c) State six ways by which Christians may use their resources for the expansion of God's kingdom (6mks)

4. a) Explain how the concept of the vine and the Branches is used to express unit of believers (8mks) b)

Identify seven ways of promoting unit with Christian community in Kenya today   (7mks)

c) Identify five symbols of unity that bring Kenyan together as a nation.   (5mks)

5. a) Identify seven ways in which modern Christians use their leisure time.   (7mks) b)

Explain the criteria for evaluating the use of leisure.   (8mks)

c) Give five reasons as why Christians are against gambling.   (5mks)

6. a) State six reasons why it is important to have laws in a country.   (7mks) b)

Give reasons why Christians are against capital punishment   (6mks)

c) In which ways can Christians solve conflict among themselves?   (7mks)

K.C.S.E PREDICTION SET 2

101/1

English Paper (Functional Skills)

1. FUNCTIONAL WRITING

Imagine that you have a foreign friend who intends to visit your home during the August holiday but does not know the way. He also intends to host ten African friends for a banquet.

a) Write the directions that you will send to your friend so as to reach your home with ease from the nearest town.

(8 mks)

b) Write the recipe on any of your favourite meals that you will give to your friend for the banquet (12 mks)

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2. Cloze test

Fill each of the blank spaces with most appropriate word.   **(10 mks)**

The police frequently (1)……………………………………..our slum village in search of hidden illicit brew. It was (2) ………………………………………..one of those raids that constable Amkatwende earned himself unexpected honour(3)……………………………………respect for his detective skills.   (4) …………………………………………..Chang'aa brewers in village had devised several smart ways of hiding their liquor in spots (5)……………………………………….. even nosiest cops would not dream of looking. A new favourite trick was to put the chang'aa (6)……………………. twenty litre jerricans, close them tightly, tie strong sisal ropes (7) …………………………………………….the necks and dangle them down pit (8) …………………………………… This of course necessitated boring extra openings at back of the toilet structures for the jerricans to be let down before the holes were in generously covered and disguised (9)……………………………………soil, refuse or even grass. No policeman in his right (10)………………………….. was going to start looking for hidden Chang'aa down a toilet pit, surely.

3. ORAL SKILLS

Read the oral poem below and answer the questions that follow: **(30 mks)**

Suck and I hide you, my gentle one

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

Suck and hide you, my beloved

I dreamt that the hunt was at Buganga

I dream that the hunt was at Ngarama

Where, oh where, shall I put, my little baby?

Where, oh where, shall I put you, my lovely little lips?
If I put you in a clump of grass, my gentle one

The hunter' rough dog will come sniffing around

The hunters' thick club tears up the back

Where, oh where, shall I put you, my lovely little lips?
Where, oh where, shall I put you, my beloved?

If I put you by the wayside, gentle one

Passers-by will take you with them, my beloved

And wash them down with a little water, my little baby

The ants will enclose you in their nest, lovely little lips

Suck and I hide you, little baby
Suck and I hide you, my gentle one

When I am dead and gone, gentle one

Feed on little blades of grass like cow, my beloved

And wash them down with a little water, my little baby

That's what raises orphans, you for whom the drum sounds

If I do not die, my little baby

Good things will be ours to enjoy, you for whom the drum sounds

i) Identify any two aspects of oral performance that make this oral poem easy to remember? (2 mks)

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ii) Suppose you were the performer of this oral poem, how would you endear it to the audience? (2 mks)

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iii) How would you perform the last two lines of the above song? (2 mks)

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iv) Suppose you were to perform this oral poem to a group of audience, what preparations would you put in place for a successful performance? (2 mks)

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v) This oral song is a translation from the local dialect of the performer. What two aspects were lost during the translation? (2 mks)

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……………………………………………………

b) Show, by underlining the syllable, where stress will fall in each of the following words. (2 mks)

i) Reputable

ii) Historic iii)

Mountaineer iv)

Nationalism

c) Indicate how you would address each of the following officials to express courtesy   (3 mks)

i) President

Your
……
……………………

ii) Mayor

Your
……
……………………

iii) Judge

Your

………

…………………….

iv) Pope

Your

………

………………………………………… v) Queen

Your

………

…………………….

vi) Member of parliament

Your

………

…………………….

d) Your teacher has requested you to chair a discussion based on the portrayal of Nora Helmer in Henrik Ibsen's Adoll's House. State three things you will do to ensure an effective discussion. (3 mks)

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e) A group of student counselors have entered the principal's office to discuss the possibility of changing the school diet for the students. The session ended in disarray. The counselors were thrown out of the office by an upset principal. Explain any four things that may have been done by either party that could have led to this situation. (4 mks)

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f) For each of the following words provide another word that is pronounced the same way. (2 mks) i) Ate ii) Flew iii) Aunt iv) Pain

g) Pick out words in the following list that have similar silent letters and group them together. (3 mks)

Whiff, rendezvous, write, debris, coup, wrist, psychology

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h) Imagine you are to make an oral presentation of a report on causes of poverty in your local area.

i) Give two ways in which you will prepare before your presentations. (2 mks)

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ii) How would you present your report effectively? (1 mk)

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K.C.S.E PREDICTION SET 2

101/2

ENGLISH

PAPER 2

(Comprehension, Literary Appreciation and Grammar)

1. Read the passage below and answer the questions that follow. (20marks)

Production of greenhouse gas (GHGs) that include carbon dioxide (C02), nitrous oxide and methane leads to global warming. The warmer environmental temperatures in return affect rainfall and weather patterns, hence climate change. These gases are produced through man's activities, including agricultural production.

To manage climate change (CC) through reduced emission and or capture and storage of the GHGs, the United Nations came up with the Clean Development Mechanism (CDM) concept where each of the 38 developed countries was given a limit as to the amount of GHGs that it can emit.. In case it has to exceed that amount, it has to support a project in the developing countries that has the ability to capture and store or reduce GHGs equivalent to what it (developed country) is producing.

This trade is referred to "cap and trade". The aim of CDM, therefore, is two-fold; reduce GHG emissions by developed countries and economic development of the developing countries. There are 15 CDM targeted sectors that include energy, transport, industrial waste disposal, afforestation/reforestation and agriculture, among others. Voluntary initiatives, governments, private companies, and individuals have collectively committed billions of dollars to buy emission reductions. Despite its potential for project development, small-scale farmers have not benefited much from CDM due to limited understanding of its process and opportunities available in agriculture, plus examples that they can borrow from.

CDM process has five steps: (1) Project design, (2) Validation/registration (3) Monitoring, (4) Verification/certification and (5) Issuance of Certified Emission Reductions (CERs), which are the units of trade. In the project design, the process starts with identification of a project with a CDM potential and then preparation of a Project Idea Note (PIN), which is further developed to a Project Design Document (PDD).International acceptance of a CDM project first requires approval at the national level, consistent with the country's domestic laws and policy priorities. The country's Designated National Authority (DNA) issues this approval and in Kenya, the National Environmental Management Authority (Nema) is the DNA. Project participants then submit the PDD to the CDM Executive Board (EB).

An example of a project idea in the transport sector is like conversion of matatus (14 seaters) to buses (64 seaters) transport system. The bus might use slightly more fuel than a matatu in any one trip but it carries more than five times the number of people per trip. The difference in fuel utilization leads to reduced C02 production from burning the fuel and this can be used to claim CERs.

Projects that have been used frequently for CDM include animal waste management - mainly biogas production and composting of agricultural

waste. Tree planting projects such as afforestation (planting new ones), reforestation (replanting a degraded forest) and agroforestry (planting trees alongside crops).

Reduced emissions can also be realized through farming systems that avoid water logging as seen in rice production; power generation from agricultural waste like bagasse through cogeneration; not burning agricultural residues; gasification of municipal solid wastes; restoration of mangroves; utilization of forest/agricultural waste such as sawmill waste and rice husks to produce energy; use of used oils for biodiesel; use of organic biodiesel from plants like jatropha, capturing and flaring methane from waste water treatment, biomass briquetting/pelleting and reforestation as a source of renewable energy for industrial use.

For economies of scale, small-scale farmers have to form groups and come up with a programme of activities that constitute a CDM.

In Kenya, some of the agricultural CDMs and estimated C02 equivalent emission reductions (metric tonnes/year) include Simgas biogas project (45,156); Muhoroni sugar bagasse cogeneration (15,056); Karan Bioresidues

Briquettes supply for industrial steam production (43,699); and Aberdare Range/ Mt Kenya Small Scale Reforestation Initiative (8,542)

a) Explain how climate change is realized in the passage (2mks)

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b) How is climate change managed by the United Nations (4mks)

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c) What is the aim of United Nations Clean Development Mechanism (2mks)

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d) Make notes on how to reduce emissions according to United Nations` Clean Development Mechanism (CDM) (6mks)

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e) Identify and explain any instance of irony in passage. (3mks)

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f) The Countries Designated National Authority issues this approval and in Kenya NEMA is the DNA. (1mk) rewrite beginning with: this approval……………………..)

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…………………

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…………………

g) Give the meaning of the following words. (2mks)

i) Concept

……………………………………………………………………………………………………
……………………… ii) "Cap and trade''

……………………………………………………………………………………………………
………………

2. Read the except below and answer the questions that follow. (25nks) Mrs.

Linde	Is Doctor Rank a man of means?
Nora:	Yes, he is.
Mrs.Linde	And has no one to provide for?
Nora:	No, no one; but
Mrs linde;	And comes here every day?
Nora:	Yes, I told you so
Mrs linde:	But how can this well-bred man be so tactless?
Nora:	I don`t understand you at all
Mrs. linde:	Don`t prevaricate, Nora. Do you suppose I don`t guess who lent you the the two hundred and fifty pounds
Nora:	Are you out of your senses? How can you think of such a thing! A friend of ours who comes here every day! Do you realize what a horribly painful Position that would be?
Mrs. Linde:	Then it really isn`t he?
Nora:	No, certainly not. It would never have entered into my head for a moment. Besides, he had no money to lend then; he came into his money afterwards.
Mrs. Linde:	Well, I think that was lucky for you, my dear Nora.

Nora: No, it would never have come into my head to ask Doctor Rank.

Although I am quite sure that if I had asked him.

Mrs Linde: But of course you won`t.

Nora: Of course not. I have no reason to think it could possibly be necessary.

But I am quite sure that if I told Doctor Rank.

Mrs Linde: Behind your husband`s back?

Nora: I must make an end of it with the other one, and that will be behind his back too. I must make an end of it with him.

Mrs Linde: Yes, that is what I told you yesterday, but-

Nora: (Walking up and down) a man can put a thing like that straight much easier than a waman-

Mrs linde: One`s husband, yes.

Nora: Nonsense!(standing still) when you pay off a debt you get your bond back, don`t you?

Mrs Linde: Yes, as a matter of course.

Nora: And can tear it into a hundred thousand pieces, and burn it up-the nasty dirty paper!

Mrs Linde: (Looks hard at her, lays down her sewing and gets up slowly) Nora, you are concealing something from me.

Nora: Do I look as if I were?

Mrs Linde: Something has happened to you since yesterday morning. Nora, what is it?

Questions

a) What happens immediately after this except? (3mks)

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…………………….

b) Discuss any two issues brought out in this except.   (4mks)

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c) How is Mrs. Linde depicted in this extract? (4 mks)

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d) In which ways does the playwright use dramatic irony in this excerpt?   (4mks)

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e) Rewrite and add a question tag``Because you do as your husband wishes.'' (1 mk)

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f) How effective is the use of humor in this extract?   (2mks)

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………………….

g) From this excerpt, Helmer is hardworking. How is this character trait brought out elsewhere in the play and how does it complicate the drama.   (3mks)

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……………………………………………………. h) Give the meaning of the following   (4mks)

i) A man of
means……………………………………………………………………………………………
……………………. ii)
Prevaricate………………………………………………………………………………
……………………………………… iii)
Horribly……………………………………………………………………………………
………………………………….. iv)
Concealing……………………………………………………………………………………
…………………………………

3. Read the poem below and then answer the questions that follow.(20mks)

THEY ARE ASKING FOR HER ALL OVER.

They are asking for her all over
Have you seen our girl?
Has anybody come across Ciagatune?
The parents, the village mates and the clan elders
They are searching for her Has anyone seen our
daughter?
She is lost
Some are saying that she went
Through the path To Mombasa

She was measured a dress at Chongoria

And the others at Kagoco

A girl has been taken away

The daughters of Mbeere land

You have no behavior Have
you ever had someone
Selling herself?

A girl taking herself there
Being picked with saliva like a flea!
A big person yet no mature in deeds

Big-for-nothing girl!

(Adapted from Oral Literature of the Embu and Mbeere by Ciarunji Chesaina)

a) What kind of audience would this song be suited for and why? (2mks)

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…………………

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…………………

b) Identify and illustrate any three features of oral songs present in this song. (6mks)

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c) Explain the meaning of the following expressions as used in the song. (4mks)

i) "Being picked with saliva like a flea!"

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ii) "Have you ever had someone selling herself?"

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d) What do you learn about the community from which the song is taken?   (4mks)

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e) What is the economic activity of the society from which the song is taken from?   (2mks)

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…………………

f) coment on the use of rhetorical questions as used in the

poem. (2mks)

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4. GRAMMAR (15MKS)

a) Rewrite the following sentences according to the instructions given after each (3mks)

i) The villagers are building a bridge across the river. (Rewrite using passive)

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…………………………

………
…………………………

………
…………………………

ii) My mother would not allow us to attend night parties under any circumstances. (Begin: Under…..)

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…………………………

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…………………………

iii) The children are here. The children wanted to see you. (Combine the two sentences using a relative pronoun)

………
…………………………

………
…………………………

b) Fill in each blank space with the correct preposition. (3mks)

i) There is no exception
……………………………………………………………………………………….this rule ii) He
has been dealing………………………………………………………………hardware for a
long time. iii) He was
sorry…………………………………………………………failing to turn up at the
meeting.

<u>c) Use the correct form of the word given in brackets to fill the gaps. (3mks)</u>

i) John wanted a
…………………………………………………………………..apology. (Rewrite) ii)
The team……………………………………………………….expected back
tomorrow(be) iii) The choir sang
very………………………………………………….(beautiful)
d) Explain the meaning of the underlined idiomatic expressions. (2mks)

i) My neighbors is an <u>open-handed</u> person.

………
…………………………

………
…………………………

ii) In those years, we <u>led a dog`s life</u>.

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…………………

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…………………

e) Explain the difference in meaning of each of the following pairs of sentences. (2mks)

i) Even I attended the ceremony

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…………………

……
…………………

ii) I even attended the ceremony

……
…………………

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…………………

f) Fill in the blanks with the correct alternative from the given choices. (2mks)

i) The childless couple…………………………………………………………..a choice (adapted/adopted)
ii"…………………………………………..now seven o'clock," she said. (its/it`s)

Name…………………………………………………………………………..Index Numbe

r……………………..

K.C.S.E PREDICTION SET 2

101/3

ENGLISH PAPER

ANSWER THREE QUESTION ONLY

1. **IMAGINATIVE COMPOSITION (COMPULSORY)**   **20MKS**

    EITHER

    a. Write a composition about a time in your life when you wished parents were around. or

    b. Write a composition to illustrate the saying: "A tree is known by its fruits "

2. **COMPULSORY SET TEXT**   **(20MKS)**

    H.R Ole Kulet, Blossoms of the Savannah.

    "There is need for women to unite in their fight against harmfull cultural practices" Write an essay illustrating the truth of this statement using H.R. Ole Kulet's Blossoms of the Savannah.

3. **THE OPTIONAL SET TEXT (20MKS)**

    Either

    a. The short story.

        Memories we lost and other stories.

        Religious hypocrisy leads to exploitation of the ignorant in the society." Validate the assertion above with relevant illustration from The Folden leaf by Segun Afolabi *or*

    b. Drama

        David Mulwa, Inheritance

        "Greed for power attracts evil" Drawing examples from David Mulwa's Inheritance, write an essay illustrating the truth of this statement

        Or

        The Novella

        John Steinback, The Pearl "**Fortune can sometimes turn us to calamities and bad omens**" Discuss this topic, with reference to the Pearl, by John Steinback.

K.C.S.E PREDICTION SET 2

312/1

GEOGRAPHY PAPER 1

SECTION A

Answer all questions in this section:

1. Explain two ways how soil is chemically degenerated.   (4mks)

2. The diagram below shows the sun, the earth and the orbit of the moon round the sun. study it and answer the
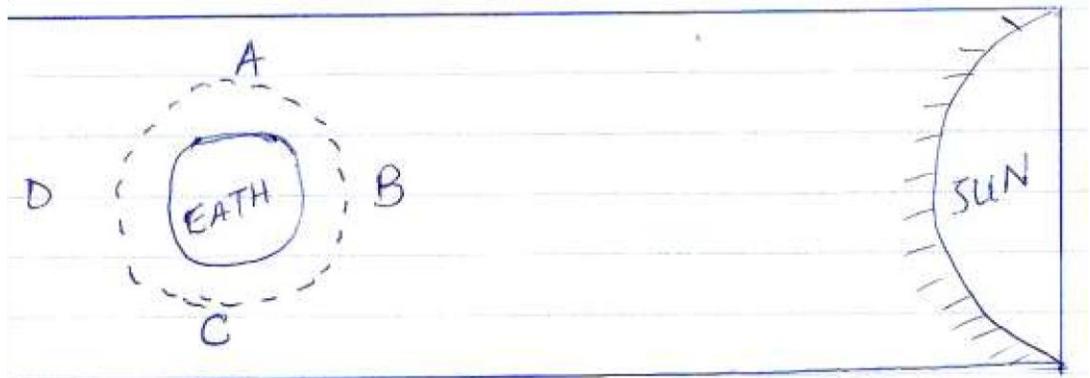
questions that follow.

i) At what position is the moon likely to be for a solar eclipse to occur?   (1mk) ii) At what position is the moon likely to be for a lunar eclipse to occur? (1 mk)

b) Give two reasons why the earth has a spherical shape. (4mks)

3. a) Name any two types of river erosion? (2mks)

b) Describe how the following factors cause river erosion . (4mks)

i) Gradient of the river channel ii) Nature of the load.

4. a) State the conditions necessary for the formation of Fog. (2mks)

b) Name any two types of Fog. (2mks)
5. Name any five processes of mechanical/physical weathering. (5mks)

SECTION B

Answer question 6 in this section and any other two

6. Study the map of Taita Hills 1:50,000 and answer the following questions.

a. i) What is the longitudinal extent of the area covered by the map. (2mks)

ii) Using the marginal information, give the magnetic variation of the area when the map was drawn.   (2mks)

iii) Give a six figure grid reference of the junction where the two all weather loose surface roads
D535 and D538 meet.   (2mks)

b. i) Calculate the area of Ronge Forest – north – eastern part of the area covered by the map. (2mks) ii) Describe the distribution of settlement in the area covered by the map. (5 mks)

c) Draw a rectangle 12cm by 10cm to represent the area enclosed by the Eastings 20 to 32 and Northings 20 to 30.

On the rectangle drawn, mark and name the following features. (5mks)

   - Forest   - all weather road bound surface

   - Vura hill   - rock outcrop

d. i) Describe the drainage of the area covered by the map. (5mks)

ii) What is the bearing of the school in Msau- west of Ronge Chini grid square 350220 from grid reference 300180 near the pump house. (2mks)

7. Use the map of Africa below to answer question 7a and b.
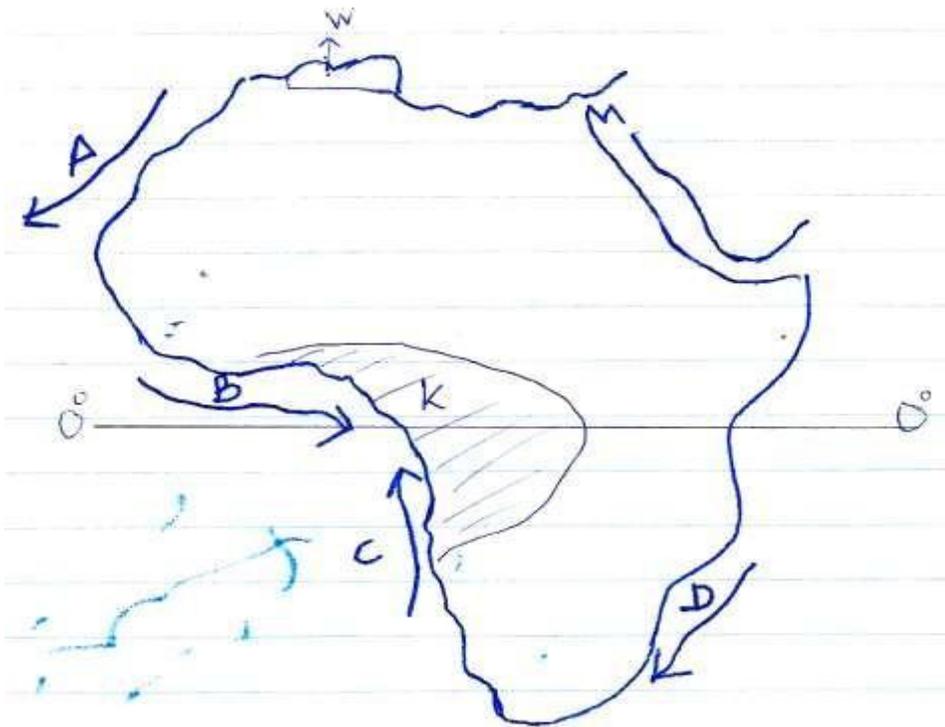
a) Name the four ocean currents marked A, B,C and D.   (4mks)

b) Describe the characteristics of the climate of the region marked (5mks)

c. i) explain how the following influence climate. (6mks)

i) Ocean currents ii)
Aspect iii) Latitude

MONTHS	J	F	M	AP	M	JN	JY	A	S	O	N	D
TEMPERATURE ^{0}C	29	30	30	30	29	27	27	27	28	29	29	28
rainfall in MM	12	6	39	73	18	7	3	7	7	26	81	71

The above table shows mean monthly rainfall and temperature of a station. Use it to answer question 7 d.

d) Describe the natural vegetation likely to be found in the area represented by the table.
(4mks)

e) Students from your school plan to carry out a field study of different types of vegetation and their uses within the school environment.

i) A part from identifying different types of plants state three other activities you would carry out. (3mks)
ii) How would you identify the different types of plants . (3mks)

8. a) i) What is an ice-sheet? (2mks) ii) Describe how the
following influence ice-movement?

 Gradient   (2mks) Season   (2mks)

b) Describe how the following glacial features are formed.

i) Cirque   (4mks) ii) Arete   (4mks)

c. i) Name three lowland ice-erosion features. (3mks) ii) Explain four ways how glacial lowland
features are important to man. (8mks)

9. a) Name three sources of underground water. (3mks) ii) Explain the conditions which influence the formation of
features in limestone areas. (5 mks)

Underground Karst features.
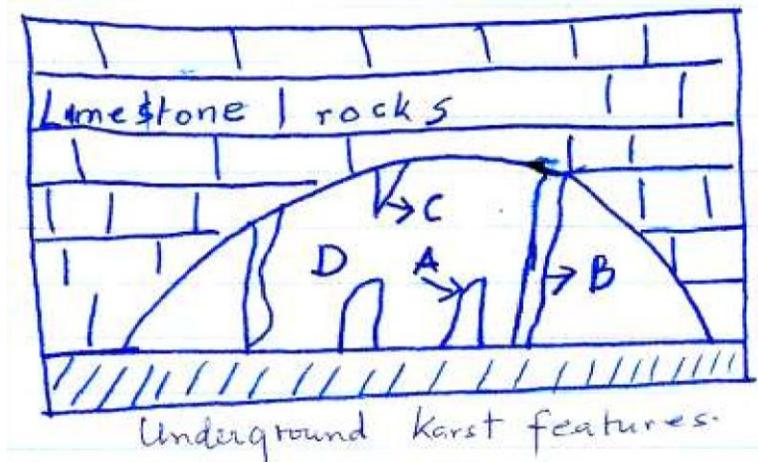
iii) Name the features marked A,B,C and D. (4mks)

9. b) i) Differentiate between an acquifer and a water table. (2mks) ii) Describe how the following factors influence occurance of underground water. (4mks)

- ❖ slope
- ❖ nature of rocks

9. c) Form four students from your school plan to carry out a field study to an area eroded by water.
i) Why is it necessary for them to carry out reconnaissance?   (3mks) ii) Name two erosional features likely to be identified during the study.   (2mks) iii) What methods would they use to record the information? (2mks)

10. a i) Name three types of deserts. (3mks) ii) State six factors which lead to the development of deserts. (6mks)

b) Describe the three process of wind transportation. (6mks)
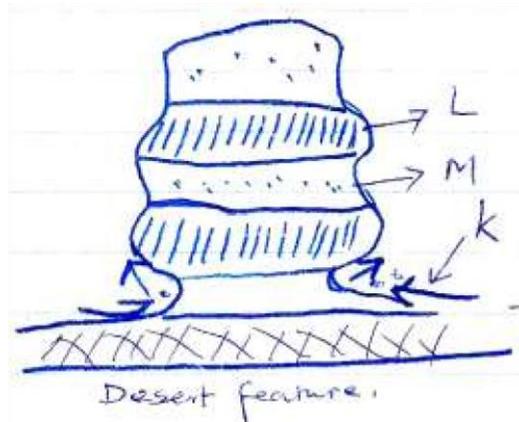
Desert feature.

i) Name the features marked L, M and K. (3mks) ii) Name the features drawn above.   (1mk)

d) Explain how desert landscape influence human activities. (6mks)

K.C.S.E PREDICTION SET 2

312/2

GEOGRAPHY PAPER 2

SECTION A

Answer All the Questions in This Section

1. a) The diagram below shows a mining drill. Name the parts marked D, E & F. (2 mks)
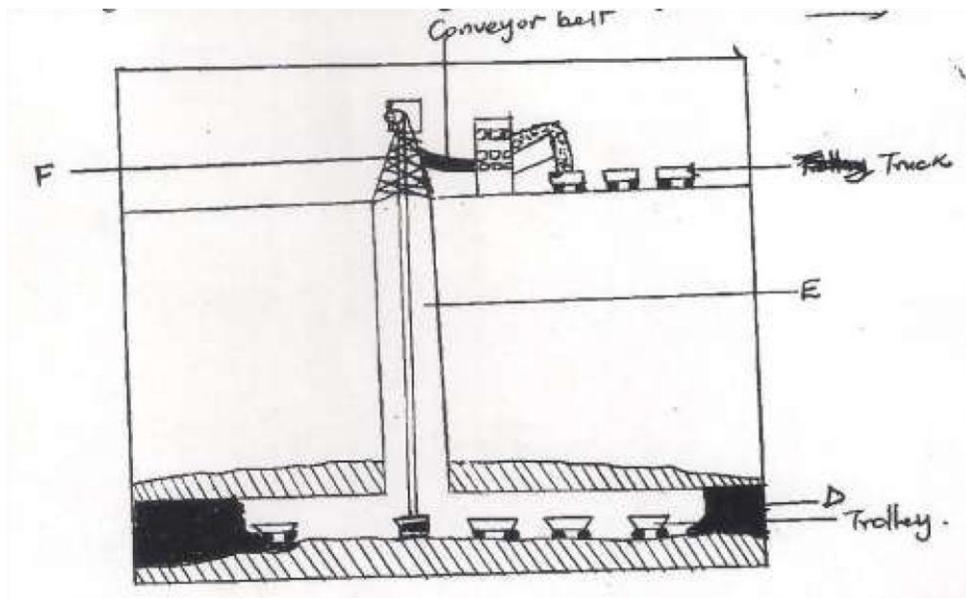
b) State two factors necessary for the occurrence of oil   (2 mks)

2. a) Give two characteristics of softwood forests in Canada   (2 mks) b) State three problems that affect forestry in Canada   (3 mks)

3. a) State three physical conditions necessary for the growing of cocoa   (3 mks) b) Outline two problems which are experienced in cocoa farming in Ghana   (2 mks)

4. a) Distinguish between balance of trade and balance of payment   (2 mks) b) State four efforts made by the Kenya government to promote external trade (4 mks)

5. a) Identify three causes of lightening   (3 mks)

b) State two advantages of windstorms   (2mks)

SECTION B

Study the photography given below and answer the questions that follow.

6. a) i) Identify the economic activity taking place in the photograph   (1 mk)

ii) Identify two counties in which the activity shown in the photograph can be carried in Kenya
(2 mks)

b) Draw a rectangle measure 12cm and 10cm wide. On it mark and label four features found
on the photograph.   (5mks)

c) i) Give three reasons which indicate that the photograph is ground general view (3 mks)

ii) Give two provinces in Canada where wheat is grown   (2 mks)

d) i) State three physical factors that favour coffee growing in the Kenya highlands (3 mks)

ii) Describe the processing of coffee from the time it is taken to the factory to packaging

(6 mks)

e) Give three main areas where coffee is grown in Brazil   (3 mks)

7. a) i) Name three types of fish   (3 mks)

ii) State three conditions for the growth of planktons in the ocean   (3 mks)

b) Study the world map provided and answer the questions that follow
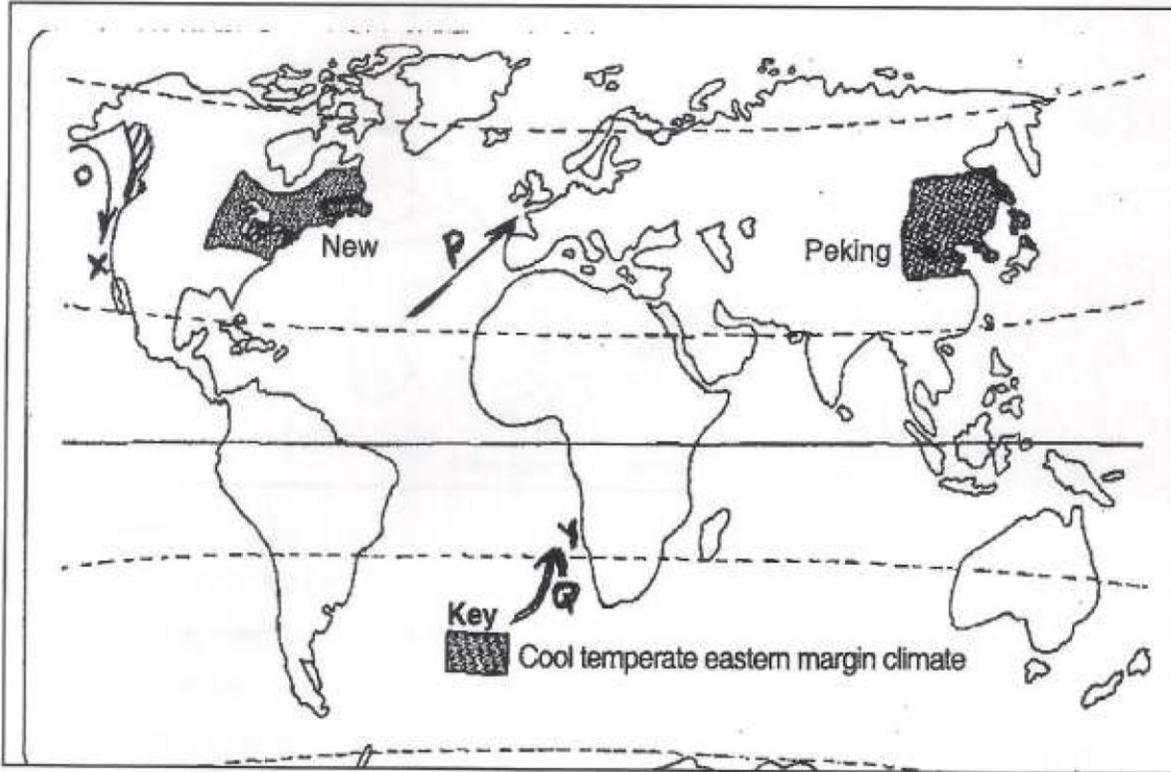
i)   Name the fishing marked X & Y   (2 mks)

ii) Identify the Ocean currents marked O, P, Q   (3 mks)

c)   Describe three major physical conditions that favour development of fishing ground X (6 mks)

d)   i) Apart from Purse seine method, name three modern methods of fishing   (3 mks)

ii) Describe how purse seining method is used to catch fish.   (5 mks)

8. Use the sketch map of the Great Lakes and St. Lawrence Seaway given to answer the questions below.
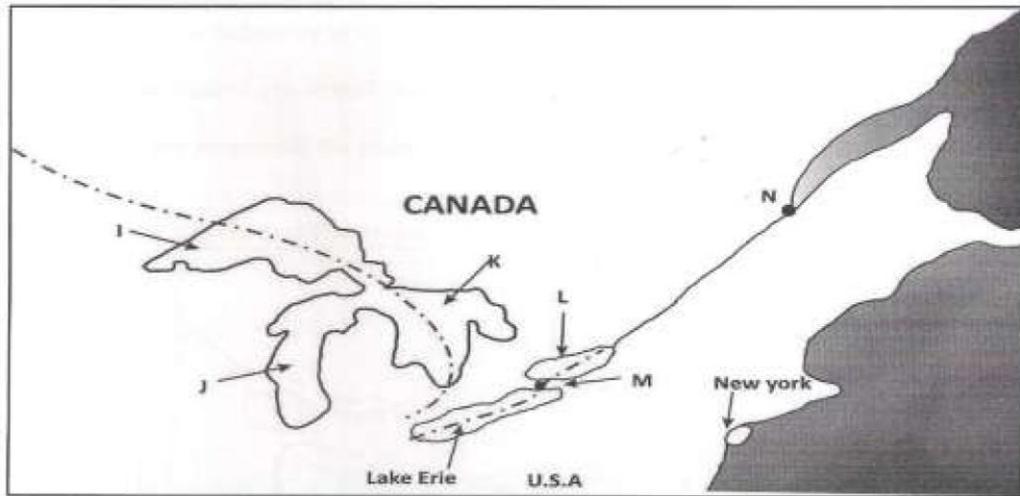
a) Name:

i) The port marked N (1 mk)

ii) The waterfall marked M (1 mk)

iii) The lakes marked J, K and L (3 mks)

b) Give three benefits that Kenyans enjoy due to the new regulations introduced in the transport sector, especially "matatu" transport. (3 mks)

c) Mention three ways in which containerization has improved the handling of goods at a port (3 mks)

d) i) Explain three factors that have hindered the development of river transport in Africa (6 mks)

ii) Explain four contributions of the St. Lawrence Seaway to the economy of Canada and the U.S.A (8 mks)

9. a) Define the term cottage industry (2 mks)

b) Outline four reasons why the county government of Nakuru should encourage foreign investors to establish jua-kali industries in the county. (4 mks)

c) Explain three factors which may lead to industrial inertia (6 mks)

(d) The map below represents the Ruhr industrial region of Germany. Use it to answer the questions that follow

Ruhr – industrial Region and Transportation Lines
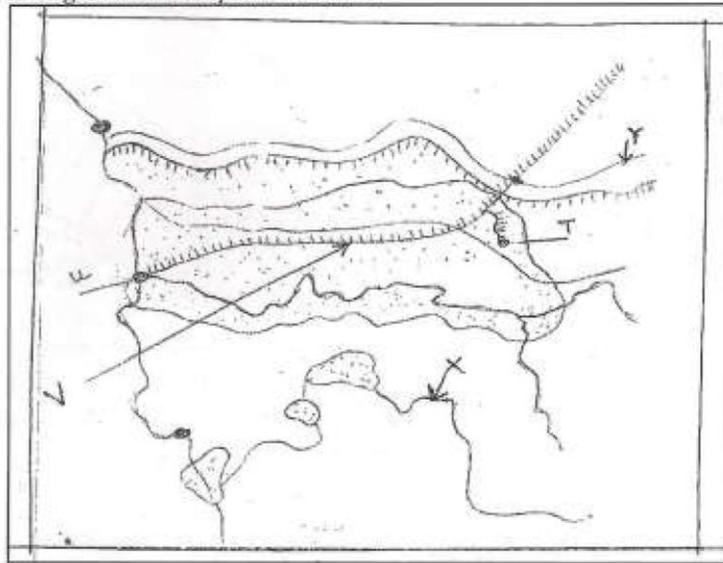
i) Name the rivers marked X and Y   (2 mks)

ii) Identify the towns labeled T and U   (2 mks)

iii) Name the canal labeled Y   (1 mk)

iv) Name any two forms of power used in the Ruhr region apart from coal   (2 mks)

v) Explain three factors that led to the growth of industries in the Ruhr region   (6 mks)

10. a) i) What is urbanization?   (2 mks)

ii) State three physical factors which influence the location of settlement   (3mks)

b) Give three social problems experienced in Kisumu city   (3 mks)

c) The diagram below represents the functional zones of an urban centre. Use it to answer questions (i) and (ii).
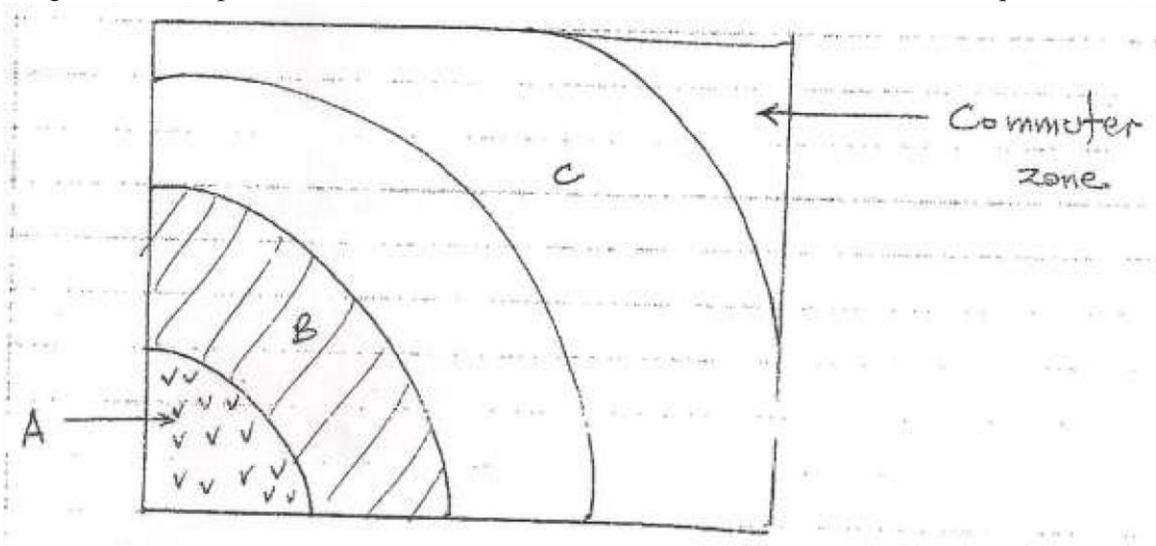
i) Name the zone marked B   (1 mk)

ii) Give four characteristics of the zone A   (4 mks)

d) Explain three factors that led to the growth of Eldoret Town
   (6mks)

e) Explain three benefits of urbanization   (6 mks)

K.C.S.E PREDICTION SET 2
311/1
HISTORY AND GOVERNMENT
PAPER 1

SECTION A (25 MARKS)

Answer all questions in this section in the answer booklet provided

1. Identify the branch of history that studies the cultural practices of people.   (1mk)
2. Name **one** area in Kenya where the remains of Kenyapithecus were discovered.   (1mk)
3. Identify **two** customs associated with southern cushites in Kenya.   (2mks)
4. Give the main social custom the Abasuba adopted from the Luo.   (1mk)
5. State two problems faced by Oman Arabs along the East African coast.   (2mks)
6. Name two communities in Kenya that participated in the long-distance trade during the 19th Century.

7. Give the **main** way in which the use of Kiswahili promotes National unity in Kenya.   (1mk)
8. Identify **two** groups that participated in the second Lancaster house conference of 1962.   (2mks)
9. Name the last stage of constitution making process in Kenya.   (1mk)
10. Identify the treaty that established the spheres of influence in East Africa in 1886.   (1mk)
11. Identify **two** peaceful methods used to establish colonial rule in Kenya.   (2mks)
12. State **two** groups that provided education in Kenya during the colonial period.   (2mks)
13. Identify the immediate cause for the declaration of state of emergency in Kenya in 1952. (1mk)
14. Name the officer who oversees the implementation of the county government budgets.   (1mk)
15. Identify the role of the president in the Kenya Defence Forces.   (1mk)
16. State **two** organs of the county government in Kenya.   (2mks)
17. Give **two** ways in which one can become a member of National Assembly in Kenya.   (2mks)

SECTION B: (45 MARKS)
Answer any <u>three</u> questions from this section in the answer booklet provided.

18. (a) Give five reasons for the migration of the highland Nilotes into Kenya during the   pre-colonial period. (5 marks)
    (b) Describe the social organization of the Borana during the pre-colonial period.
                                                        (10 marks)
19. (a) Identify three missionary societies that were involved in spread of Christianity in Kenya during the 19th Century.   (3mks)
    (b) Explain **six** effects of missionary activities in Kenya during the 19th century.   (12mks)
20. (a) State **five** grievances that the Asians presented to the Duke of Devonshire in 1923.   (5mks)
    (b) Explain **five** effects of the Devonshire white paper of 1923.   (10mks)
21. (a) Identify **five** main features of African socialism as spelt out in sessional paper No. 10 of 1965.
    (b) Describe **five** ways in which Harambee philosophy has contributed to development in Kenya since

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

independence. (10mks)

SECTION C: (30 MARKS)
Answer any __two__ questions from this section in the answer booklet provided.

22. (a) State **five** aims of a prison sentence in Kenya. (5mks)

    (b) Explain **five** challenges facing the National Intelligence Service in Kenya. (10mks)

23. (a) Give *three* reasons why elections are important in Kenya. (3 marks)

    (b) Describe the law making process in Kenya. (12 marks)

24. (a) Identify **five** sources of revenue for county government. (5mks)

    (b) Explain **five** ways in which the national government spends its revenue. (10mks)

K.C.S.E PREDICTION SET 2
311/2
HISTORY AND GOVERNMENT
PAPER 2

SECTION A (25 marks)
Answer all questions in this section

1. Give the meaning of social history.   1mark
2. Identify two stages of evolution according to Charles Darwin. 2marksState two ways in which political instability causes food shortages in African countries.   2marks
3. State two advantages of using currency system of trade.   2marks
4. Identify two characteristics of regional trade.   2marks
5. State the main effects of the invention of the wheel.   1mark
6. Identify two challenges facing space exploration.   2marks
7. Give one use of steel during the industrial revolution in Europe.   1mark
8. Name two social classes that made up the Buganda society in the pre-colonial period. 2marks 9. Outline two roles of the explorers in the colonization of Africa in the 19th century. 2marks
10. Give the main contribution of religion in the maji maji uprising between 1905 and 1907. 1mark
11. Give two reasons why the shone supported the British during the Ndebele war of 1893. 2marks
12. Give the main feature of indirect rule in northern Nigeria.   1mark
13. Identify one way in which nationalism undermined the policy of assimilation in French West Africa. 1mark
14. Give one benefit of international relations. 1mark
15. State one reason why the army staged a mutiny in Congo in 1960 16.   Name the political party in the United States of America U.S.A. 1mark
17.

SECTION B (45 marks)
Answer any three questions from this section

19. a) State three disadvantages of the traditional system of farming in Britain before the
        18th century.

    3marks
b) Explain six factors which facilitated the development of agriculture in America before 1800.

    12marks
20. a) Give three ways in which the kings of western Sudan enhanced the development of the

        Trans Saharan trade.
        3mks
b) Explain six economic effects of slave trade on communities in West Africa during the Trans
            Atlantic trade.
    12marks
21. a) Outline three factors that contributed to the establishment of European rule in Africa by the
            end of the 19th century.

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

3marks

b) Explain six factors of the lozi collaboration with the British.
12marks

22. a) State five methods used by African countries to assist South Africa to fight apartheid.
5marks

b) Explain the challenges experienced by the liberation movement of Mozambique. 10marks

SECTION C (30marks)
Answer any two questions from this section.

23. a) State three political developments in Europe which influenced the outbreak of the first word war.
3marks

b) Describe the social results of the Second World War. 12marks

24. a) Name three African heads of state who were founder members of the organization of

African unity.
3marks

b) Explain six achievements of the economic community of west Africa states.
12marks

25. a) Identify five persons who are not allowed to vote in Britain.
5marks

b) Explain five functions of the Monarch in Britain.
10marks

END

K.C.S.E PREDICTION SET 2

441/1
HOME SCIENCE
THEORY PAPER 1

SECTION A (40 MARKS)

ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1. Differentiate the two kinds of fractures   (2 mks)

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2. a) State two functions of roughage in the body   (2 mks)

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b) Give two main source of roughage in the diet   (2 mks)

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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657 129

3. Mention two causes of nappy rash   (2 mks)

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4. Give three points on choice of root vegetables   (2 mks)

5.   Give two conditions necessary for steam to act as a raising agent   (2 mks)

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6.   Identify six methods of finishing the edges of sleeves other than using a cuff (2 mks)

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7.   Give two reasons for an open and coarse texture in creamed cake.   (2 mks)

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8.   Mention two points on the role of VCT in safe parenthood   (3 mks)

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9.   Mention three characteristics of a well made hem   (3 mks)

FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

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10. Mention three points on conservation of energy when lighting up a room.   (3 mks)

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11. Give two factors that determine the size of a patch pocket   (2 mks)

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12. Identify three characteristics of fabrics that produce static electricity   (3 mks)
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13. Mention two classes of garnishes and give an example in each case.   (2 mks)

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14. State two disadvantages of ready to eat frozen foods.   (2 mks)

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FOR MARKING SCHEMES CALL/TEXT/WHATSAPP 0705525657

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15. Define the term standardization. (2 mks)

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16. Suggest uses of milk in cookery (2 mks)

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17. Give two symptoms of diabetes (2 mks)

SECTION B (20 MARKS)

Answer these questions in the answer sheets provided 18. You have

offered to carry out some household chores.

a) Explain the procedure you will follow to clean a glass window in your bedroom (11 mks)

b) Outline how you will dry clean your woolen gloves.   (9 mks)

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SECTION C (40 MARKS)

Answer any two questions from this section in the answer sheets provided.

19. a) Outline the procedure of working a French seam on the side of a blouse (8mks)

b) Describe four factors that influence choice of fabric for a garment   (4 mks)

c) Explain four points to bear in mind when attaching fastenings   (4 mks)

d) Describe four points on choice of a sleeve to use on a garment   (4 mks)

20. a) Explain five functions of fruits in cake making   (5 mks)

b) Describe five ways of fortifying maize meal porridge   (5mks)

c) Explain four guidelines when entertaining guests   (5 mks)

d) Outline six rules to observe when storing leftover foods   (6 mks)

21. a) Describe five problems likely to be encountered when weaning a baby   (5 mks) b) Explain four points

to observe in the care of lighting fixtures   (8 mks)

c) Explain four benefits of attending post-natal clinic to a mother   (4 mks)

d) Outline the procedures of removing old iron rust stain from a white cotton towel (3 mks

K.C.S.E PREDICTION SET 2

102/1

KISWAHILI PAPER 1

MAAGIZO

a) **Andika Insha mbili.**

b) **lnsha ya kwanza ni ya lazima.**

c) **Chagua Insha nyingine moja kutoka kwa hizo tatu zilizobaki.**

d) **Kila Insha isipungue maneno 400.**

e) **Kila Insha ina alama 20.**

1. Andika tahariri kwa gazeti la Taifa Leo juu ya umuhimu kwa ushauri nasaha katika shule za upili kwa wanafunzi.(Alama 20)

2. Utandawazi una athari mbaya kwa maisha yetu jadili.   (Alama 20)

3. Aambuaye nyayo safari imeanza   (Alama 20)

4. "Mwanangu Nyanchama miaka kumi sasa tangu yakupate yaliyokupata.Shukuru Mola kwamba alikuhifadhi. Kuteleza si kuanguka..." .... Endeleza Insha hii. (Alama 20)

FOR MORE RESOURCES CALL: 0705525657

K.C.S.E PREDICTION SET 2

102/2

KISWAHILI LUGHA

(Ufahamu, Ufupisho, MatumiziyaLugha, Isimu-Jamii)

UFAHAMU (Alama 15)

Soma taarifa ifuatayo kisha ujibu maswali.

Mwalimu mtukutu alikuja kwangu kwa ualishi wa mke wangu. Siku hizo alikuwa amefanya kama maradhi ya wasiwasi. Hata akawahi kulazwa spitali na alipotoka sikuona tofauti kubwa. Basi shemeji yake aliposema kuwa kuna mganga fatashi aliyempoza mkewe na mkewe rafiki yao, nikakubali amwite aje amwangalie mke wangu.

Ama mimi siwaamini sana hawa waganga wa kikwetu - shemeji mke wangu awaita walimu. Naamini kuwa maradhi mengi yatokana na mawazo ya mgonjwa kuliko kuwa ni ugonjwa hasa wa viungo vya mwili. Juu ya hayo mwanyumba wangu na huyo rafiki yake ni watu wa maana, nikaona siwezi kumvunja.

Mwalimu akaja nyumbani akamsikiza kwa makini mke wangu akimuaridhia uwele wake. Hapo ndipo alipombainishia maradhi yake ni nini, yatokana ria nini na yahitaji uaguzi gani. Sababu ya maradhi akaambiwa kuwa mume alikuwa akifanya utukutu nje akapambana na bibi mmoja aliyesalitika naye sana. Huyo bibi akaenda kufanya sihiri, "kumfunga mumeo na wewe kukuletea maruhani usijijue usijitambue ili awe naye peke yake," Sasa basi, habari hizi lazima aziweke siri kubwa hasa mimi nisijue, maana itakuwa shida kubwa kunifungua na kumtopoa yeye.

Kabla ya kwenda kuangalia nikaona hali imebadilika nyumbani. Kila nikiingia huwa kumenuniwa. Wakati wote bibiye akawa amenifuria. Nikajua pana jambo hapa. Na kwa tabia ya mke wangu jambo lenyewe namna linavyomkera, ndiyo lazima atalitoa tu, hataweza kustahamili akiteketea ndani kwa ndani. Nikasema, heri nibahatishe pengine nitasibu. Nikamwambia basi,' mwalimu amekutobolea mambo sasa yanakukera kumbe nilikuwa nimeugusa mshipa ndipo. Kukaanzwa tena hata kukimalizwa nikayapata yote. Kulitokea kidudu mtu akajifanya ni mwema wake mkubwa. Akambunia habari tumbi nzima zisizokuwa na msingi na habari hizo zilipomfikia mwalimu mtukutu zikazidi kupambwa na kutiwa kila kiungo.

Ama kuna watu duniani hawaoni watu wawili wamekaa vema wasitie peke peke kutaka kuwatangua na wengine wakiona mahali pana pato huwa kwao si nongwa kutia utesi ikiwa pato hilo halina njia nyingine yakulipata. Maswali

a) Ni kwa nini msimulizi alimkubalia mkewe amwite mwalimu mtukutu kwake? (alama 4)

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b) Fafanua imani ya msimulizi kuhusu ugonjwa.   (alama 2)

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c) Kwa mujibu wa habari, mwalimu mtukutu alikuwa na sababu ipi ya kumkataza mteja wake asimweleze uaguzi
wake. (alama 1)

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d) Eleza hali ilivyobadilika nyumbani kwa msimulizi na hatima yake. (alama 4)

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e) Mke wa msimulizi alimtilia shaka kwa sababu gani? (alama 2)

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………………………………………………… f) Eleza maana: (alama2)

i) Kumfunga mume ....

ii) Mwanyumba .... , ...

UFUPISHO: (ALAMA 15)
Soma makala hay a kisha ujibu maswali.

Dhana ya kupatilizwa tuliyo nayo haitokani na hofu ya sayansi bali yatokana na hofu ya vita na sababu za vita hazikuzushwa na sayansi. Utaalamu huu haukuunda vita, umeukuza ujuzi wa vita na kuupotoa.

Kwanza, pasi na shaka, sayansi imeziongeza nguvu za wachochezi wa vita. Zana za kisasa zinaweza kuficha watu wengi zaidi wasijulikane walivyokufa na kuwaua kwa njia ya manyenzi zaidi kuliko zana za zamani. Kila silaha mpya zinazoundwa ni za maangamizi zaidi, ni za kutisha sana hata kuwapa watu kusema kuwa dola zitalazimika kuacha vita kwa hofu ya uharibifu utakaowapata hata wakiwa washindi. Lakini kweli ilivyo ni kuwa hakuna taifa ulilosita kuanza vita kwa kucha ati silaha lillilo nazo zitaangamiza walimo na wasiokuwemo kuundwa kwa marisau ya kulilikisha miji iliyo mbali, kuundwa kwa makombora ya atomiki, hewa za sumu zinazopaliza na kuzuia pumzi au zinazotawanya vidudu vya maradhi au vya kuua mimea, zana zote hizi hazijazuia wala hazitazuia vita.
Lakini lawama kubwa ni ya wataalamu wa sayansi maana utaalamu wenyewe una kunga kama za wachawi na waganga. Kila mtu azicha wala hajui la kuzifanya na hao wataalamu nao wamejiziba katika kunge la kunga hizi kupagaza waja na kujifanya waungu-wa-ti (miungu ya chini). Kwa sababu ya kujiepusha hivi na watu kile kilicho kimegeuka kuwa hofu na kitisho na kila mtu ataka amwepuke mtaalamu wa sayansi kama anavyomwepuka mchawi na mganga. Ni juu yao kuyaondosha maoni haya na ni juu yetu sote kutoivika vita sayansi bali tuifanye chombo cha kudumisha amani.

Maswali
a) Kwa kuzingatia mambo muhimu, fupisha aya za kwanza mbili (Maneno 50-55) (alama 9, 2 za utiririko)

MATAYARISO:

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b) Fupisha aya ya mwisho bila kupoteza maana asilia (Maneno 40) (alama 6, 1 ya utiririko)

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3. MATUMIZI YA LUGHA (ALAMA 4)

a) Andika kwa umoja: mavuzi yameota kwapa nimwao. (alama 2)

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b) Ainisha mofimu za neno: aliaye. (alama 2)

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c) Huku ukitoa mfano mmoja, eleza majukimu ya kielezi. (alama3)

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d) Tunga sentensi ukitumia neno `seuze` iilikuonyesha matumizi yake. (alama 2)

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e) Tambua matumizi ya 'ni' katika utungo ufuatao. Mama ni mgonjwa na ananisubiri hospitalini. (alama 3)

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……………………………………………………… f) Sentensi hizi ziko katika hali gani?

  (i) Kalindi na Chebet wacheza darasani. (alama 1)

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……………………………………………… ii) Juma angaliniona angalinituma kwao.   (alama 1)

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g) Tunga sentensi moja iliyo na vitenzi viwili (alama 2)

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h) Ainisha virai vilivyopigiwa mstari. (alama 2) Mtoto mtundu alipanda juu ya dawati.

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i) Tambua shamirisho na uonyeshe aina yake. Chakula kilipikwa na Misoi. (alama 2)

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j) Changanua kwa kielelezo cha jedwali. Alifika mapema sana. (alama 4)

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k) Andika kwa ukubwa umoja. Wanawake hawa ni wazembe. (alama 2)

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FOR MORE RESOURCES CALL: 0705525657

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1) Sahihisha:
Jamaa ile ako katika mtoni.   (alama 2)

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m) Tumia vitae hivi katika sentensi moja ilikudhihirisha matumizi yao. (alama 2)

i) Somea

(ii) Zomea

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n) Weka shadda katika neno 'mbaya' ilikuleta maana mbili tofauti. (alama 2)

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o) Eleza matumizi yoyote mawili ya kiimbo. (alama 2)

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p) Toa mfano mmoja wasauti hizi: (alama 2)

i) Kitambaza

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…………………………………………………… **ii) Kikwamizo cha meno na ulimi**

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………………………………………………………
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…………………………………………………… **r) Tofautisha kati ya /e/ na** /o/

(alama 2)

s. Andika katika wakati usiodhihirika. (alama 2)

Mama anayecheza na watoto ndiye ninayempenda.

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4. ISIMU JAMII (alama 10)

Kadenge anao! Anao bado!
Salaaaale! .... wa .... lahaula!
Chapokwajukimo cha panya .... Lo! (a) Hii ni
sajili gani? (alama 1)

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(b) Taja sifa zozote tano za sajili hii. (alama 5)

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c) Eleza athari ya kiisimu, inayoweza kumkabili mtu asiye na meno ya juu. (alama 4)

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K.C.S.E PREDICTION SET 2

102/3

KISWAHILI

FASIHI
SEHEMU YA (A): TAMTHILIA YA KIGOGO

1.Swali la *lazima.*

"Mungu yu mwema. Utatembea.

- a) Fafanua mukthada wa dondoo hii. (alama 4)
- b) Fafanua sifa za msemewa wa maneno haya. (alama 6)
- c) Eleza changamoto tano ambazo wanamapinduzi walizozipitita katika harakati zao za kuikomboa Sagamoyo (alama 10)

SEHEMU YA B

2. **CHOZI LA HERI:** Assumpta K. Matei

"**nimeonja Shubiri** ya kuwa mtegemezi ya kuwa mtegemezi kihalali na mali, lakini katika yote hayo nimejifunza mengi."

i. Eleza muktadha ambapo kauli hii imetolewa. (alama 4)
ii. Bainisha tamathali ya usemi iliyojitokeza katika kauli hii (alama 2)
iii. Thibitisha ukweli wa kauli iliyopigigwa mstari kwa kutoa hoja saba huku ukirejelea mzungumzaji. (alama 14)

3. Riwaya ya Chozi la Heri imeangazia matatizo yanayozikumba nchi huru za Afrika . Thibitisha kauli hii kwa kurejelea wahafidhina.

- a) Dhiki za wakimbizi (alama 14)
- b) Eleza athari za ukimbizi (alama 6)

SEHEMU C (Tumbo Lisiloshiba)

TUMBO LISILOSHIBA NA HADHITHI NYINGINE

4.

a). Jadili suala la elimu kwa kurejelea hadithi za:

 i. Mapenzi ya kifaurongo ii.
 Mtihani wa maisha

(alama 10)

b). Fafanua kwa kina maudhui ya malezi kwa kuzingatia hadithi ya

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i. Shogake Dada ana Ndevu
ii. Tulpokutana Tena. (alala 10)

5. *Ndoto ya Mashaka na Ali Abdulla Ali*

"lakini hayo twayajua wenyewe tu. Ni siri yetu. Ndiyo sababu ya kuambiwa, siri ya mtungi uliza kata au kitanda usichokilalia huwajui kinguniwe."

i. Eleza muktadha wa dondoo hii. (alama 4)
ii. Taja na utoe mifano ya tamathali ya usemi iliyotumika katika kifungu.(alama 1)
iii. Taja sifa tano za anayezungumza (alama 5)
iv. Kwa kurejelea tandale, eleza kauli "siri ya mtungi uliza kata." (alama 10)

SEHEMU YA D: USHAIRI

USHAIRI

6. **MKWARUZANO WA NDIMI**

    Huyo! Mshike huyo !

Hakuna bunduki wala kifani

Bomu na risasi hata hawazijui

  Lakini mno wanashambuliana

  Kwa ndimi zilizonolewa kwa makali Vipande

  vya matusi silaha zao.

  Yu imara mmoja wao

  Akirusha kombora la neno zito!

  Limtingishe adui wake

  Na kumgusa hisia kwa pigo kuu

  Pigo linalochoma moyoni kama kichomi

  Kuchipuza joto la hasira na kisasi

  Katika mapigano yaso na kikomo

Filimbi ya suluhu inapulizwa kuwaamua!

Nani anayekubali suluhu?
Roho zinakataa katakata

Huku ukaidi ukinyemelea na kutawala kote

Mapandikizi ya watu yakipigana

Vita shadidi visivyo ukomo

Vita vya ndimi!

Magharibi sasa

Jua linapungia mkono machweo

Nalo giza likinyemelea kwa kiburina

Kasi

Sisikii tena sauti za misonyo

Mate yawatesi yamekauka

Makanwa yao yamelemewa na uchovu

Sasa wameshikana mikono Ishara

ya suluhu.

Maswali

(a)   Hili ni shairi la aina gani?   (alama 1)

(b)   Eleza dhamira ya mshairi.   (alama 2)

(c)   Eleza kanuni za utunzi alizotumia mshairi.   (alama 4)

(d)   Taja mbinu zozote tatu za kifasihi alizotumia mshairi.   (alama 3)

(e) Jadili toni ya mshairi katika beti tatu za awali.   (alama 2) (f)   Tambua matumizi ya mistari mishata na utoe mifano miwili.   (alama 3)

(g) Andika mishororo ya kwanza mitatu katika ubeti wa 4 kwa lugha ya nathari.

(alama 3)

(h) Toa maana ya msamiati huu.   (alama 2)

    (i)   Kombora

  (ii) Misonyo

7. (Soma shairi hili kisha ujibu maswali yanayofuata)

Ameumbwa mwanadamu, kwa lililo zuri umbo,
Basi si wote fahamu, waliyo na sawa mambo,
Wako waliyotimamu, na wengineyo wa kombo,
Na mtu kuwa na tumbo, si kwamba mekamilika.

Kuna walo mafidhuli, lugha yao ni matango,
Na kuna wenye kauli, sizokuwa na ushingo,
Kuna wake kwa wavuli, vipofu na wenye tongo,
Na mtu kuwa na shingo, si kwamba mekamilika.

Kuna walo na fikira, na wenye vibovu vitwa, kuna
walo na subira, husubiri kucha kutwa, wengine
tabiya ya bora, hino huwanayo katwa, Na mtu
kuwa na kitwa, si kwamba mekamilika.

Kukamilika kwa Mja, ni mbali kwa Moliwa,
Kwa Mja nitakutaja, ili upate kwelewa, Ni
kufikiya daraja, ile aliyoumbiwa, Hapo
ndipo huambiwa, Mja amekamilika.

Aiyelewe duniya, kwa marefu na mapana,
Azipite zile ndiya, za miba mitungu sana,
Avuke bahari piya, zito na virefu vina,
Hiyo ni yangu maana ya mja kukamilika.

Akishafikwa na hayo, si kwamba ndiyo akhiri,

Lazima awe na moyo, wa kuweza kusubiri,
Kuyasubiri ambayo, yote yatayomjiri,
Kama huyo tamkiri, ni mja mekamilika.

Maswali

a) Kulingana na shairi hili ni yapi humfanya mtu kuwa na utu? Taja matano.(alama 5)

b) Fafanua namna mshairi alivyofaulu kutumia uhuru wake. (alama 4)

c) Eleza maana ya vifungu hivi kama vilivyotumiwa katika shairi. (alama 3)

i) Vibovu vitwa. ii)
Tabiya bora. iii) Mtu
kuwa na kitwa.

d) Msanii anakiri nini kuhusu Mja? (alama 2)

e) Andika ubeti wa tano kwa lugha nathari. (alama 4)

f) Eleza umbo la shairi hili kwa kuzingatia mizani na vina. (alama 2)

SEHEMU YA E: FASIHI SIMULIZI (ALAMA 20)

8. a). Eleza maana ya dhana zifuatazo: (alama 5)

i. Lakabu
ii. Misimu
iii. Ulumbi iv. Miviga
v. Maapizo

b). Fafanua sifa tano za misimu (alama 5)

c) Fafanua sifa tano za ngomezi (alama 5)

d)Taja changamoto tano zinazokabili matumizi ya ngomezi katika jamii ya sasa. (alama5)

K.C.S.E PREDICTION SET 2
121/1
MATHEMATICS
PAPER 1

SECTION I (50 MARKS)

1. Points S(-2,2) and T(-3, 7) are mapped onto S¹(4 -10) and T¹(0,10) by an enlargement. Calculate the enlargement scale factor. (3 mks)

2. Given that $\frac{1}{2x} = (0.732)^2 + \sqrt[3]{85.3}$, use mathematical tables to find the value of x correct to 3 significant figures. (3 mks)

3. Simplify: $\frac{12x^2 + ax - 6a^2}{9x^2 - 4a^2}$ (3mks)

4. All prime numbers less than ten are arranged in ascending order to form a number.

a) Write down the number formed (1 mk)

b) Express the number in (a) above in standard form (1 mk)

5. A two digit number is such that the one's digit is four more than the tens digit, and the sum of the digits is 14. Find the number. (3 mks)

6. Marwa bought a refrigerator on hire purchase by paying montly installments of Ksh.2000 per month for 40 months and a deposit of Ksh.12,000. If this amounted to an increase of 25% of the original cost of the refrigerator, what was the cash price of the refrigerator? (4 mks)

7. Find the integral values of x which satisfy the inequality (3 mks) $3(1 + x) < 5x$

$- 11 < x + 45$

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8. Without using calculator, evaluate. $\left(\frac{7}{3}\left[\frac{2}{5} \, of \, 1\frac{2}{3} - \frac{1}{2}\left(\frac{1\frac{2}{2}-2\frac{1}{2}}{\frac{1}{3}-\frac{19}{27}} \right) + \frac{2}{3} \quad \right] \right)^{½}$ leaving the answer as a mixed fraction.

(4 mks)

9. During a certain month, the exchange rates in a bank were as follows;

	Buying (Ksh)	Selling (Ksh)
1 USD	91.65	91.80
1 Euro	103.75	103.93

A tourist left Kenya to the United States with KSh. 1,000,000. At the airport he exchanged all the money to dollars and spent 190 dollars on air ticket. While in US he spent 4500 dollars for upkeep and proceeded to Europe. While in Europe he spent a total of 2000 Euros. How many Euros did he remain with?   (4 Marks)

10. A bus moving at a speed of 80km/h is being overtaken by a car moving at l00km/h in a clear section of a road. Given that the bus is 21m long and the car is 4m long. How much time (in seconds) will elapse before the car can completely overtake the bus? (3 Marks)

11. A regular **n**-sided polygon has its interior angle equal to 4 times its exterior. Find **n** (3 Marks)

FOR MORE RESOURCES CALL: 0705525657

12. The ratio of the lengths of the corresponding sides of two similar rectangular petrol tanks is 3:5. The volume of the smaller tank is $8.1m^3$. Calculate the volume of the larger tank. (3 Marks)

13. ABCD is a rhombus. A is the point (2,1) and C is the point (4,7). Find the equation of the diagonal BD in the form ax + by = c   (4 mks)

14. A woman walks directly from point A towards the foot of a tall building 240m away. After covering 180m, he observes that the angle of elevation of the top of the building is 45°. Determine the angle of elevation of the top of the building from A.   (3 mks)

15. The G.C.D and L.C.M of three numbers are 3 and 1008 respectively. If two of the numbers are 48 and 72, find the least possible value of the third number. (3 mks)

FOR MORE RESOURCES CALL: 0705525657

16. An ant moved from Y to X the midpoint of RS through P in the right pyramid below.
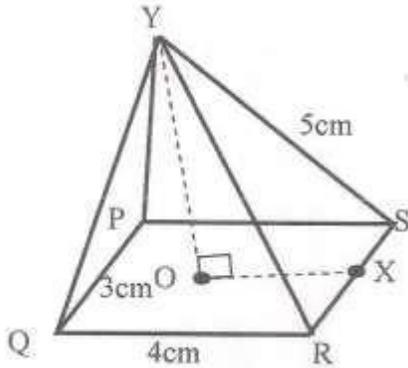
Draw the net of the pyramid showing the path of the ant hence the distance it moved. (4 mks)

SECTION II (50 MARKS)

Answer any five questions in this section

17. Three warships A, B and C are at sea such that ship B is 500km on a bearing 030° from ship A. Ship C is 700km from ship B on a bearing of 120°. An enemy ship D is sighted 800km due south of ship B.

a) Taking a scale of 1cm to represent 100km, locate the positions of ships A, B, C and D. (4 mks)

b) Find the bearing of:

i) Ship A from D   (1 mk)

FOR MORE RESOURCES CALL: 0705525657

ii) Ship D from C   (1 mk)

c) Use scale drawing to determine the distance between

i) D and A   (1 mk)

ii) C and D   (1 mk)

d) Measure angle DAC and angle BCD   (2 mks)

18. (a) A rectangular tank of base 2.4m by 2.8m and a height of 3m contains 3600 litres of water initially. Water flows into the tank at the rate of 0.5 litres per second. Calculate:
(i) The amount needed to fill the tank   (2 Marks)

(ii) The time in hours and minutes required to fill the tank   (3 Marks)

b) Pipe A can fill an empty tank in 3 hours while pipe B can fill the same tank in 6 hours.

When the tank is full, it can be emptied by pipe C in 8 hours. Pipes A and B are opened at the same time when the tank is empty. If one hour later pipe C is also opened, find the total time taken to fill the tank.

(5 Marks)

19. A solid is made up of a conical frustum and a hemispherical top. The slant height of the frustum is 8cm and its base radius is 4.2cm. If the radius of the hemispherical top is 3.5cm. (a) Find the area of:

    (i) the circular base of the solid   (2 Marks)

    (ii) the curved surface of the frustum   (3 Marks)

    (iii) the hemispherical surface   (3 Marks)

(b) A similar solid has a total surface area of 81.51cm^2. Determine the radius of its base.(2 Marks)

20. In the figure below, O is the centre of the circle. PQ is a tangent to the circle at N. Angle NCD is 10° and angle ANP is 30°.

FOR MORE RESOURCES CALL: 0705525657
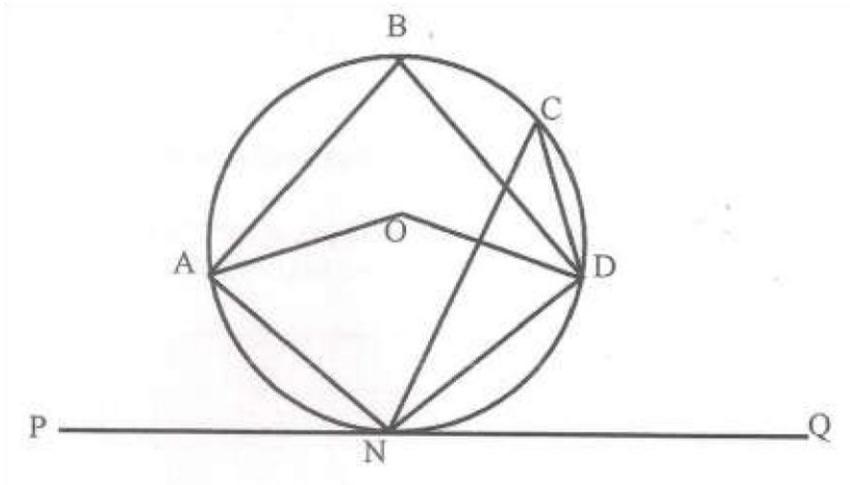
Giving reasons, calculate:

a) Angle DON   (2 mks)

b) Angle DNQ   (2 mks)

c) Angle DBA   (2 mks)

d) Angle ONA   (2 mks)

e) Angle ODN   (2 mks)

21. Two quantities P Q are connected by the equation $P = KQ^n$. The table below gives the values of P and Q

P	1.2	1.5	2.0	2.5	3.5	4.5
Q	1.58	2.25	3.39	4.74	7.86	11.5

a) State the linear equation connecting P and Q (1 mk)

b) Using a scale of 1cm to represent 0.1 units in x – axis and 1cm to represent 0.1 units on y-axis, draw a suitable straight line graph on the grid provided. (5 mks)

FOR MORE RESOURCES CALL: 0705525657
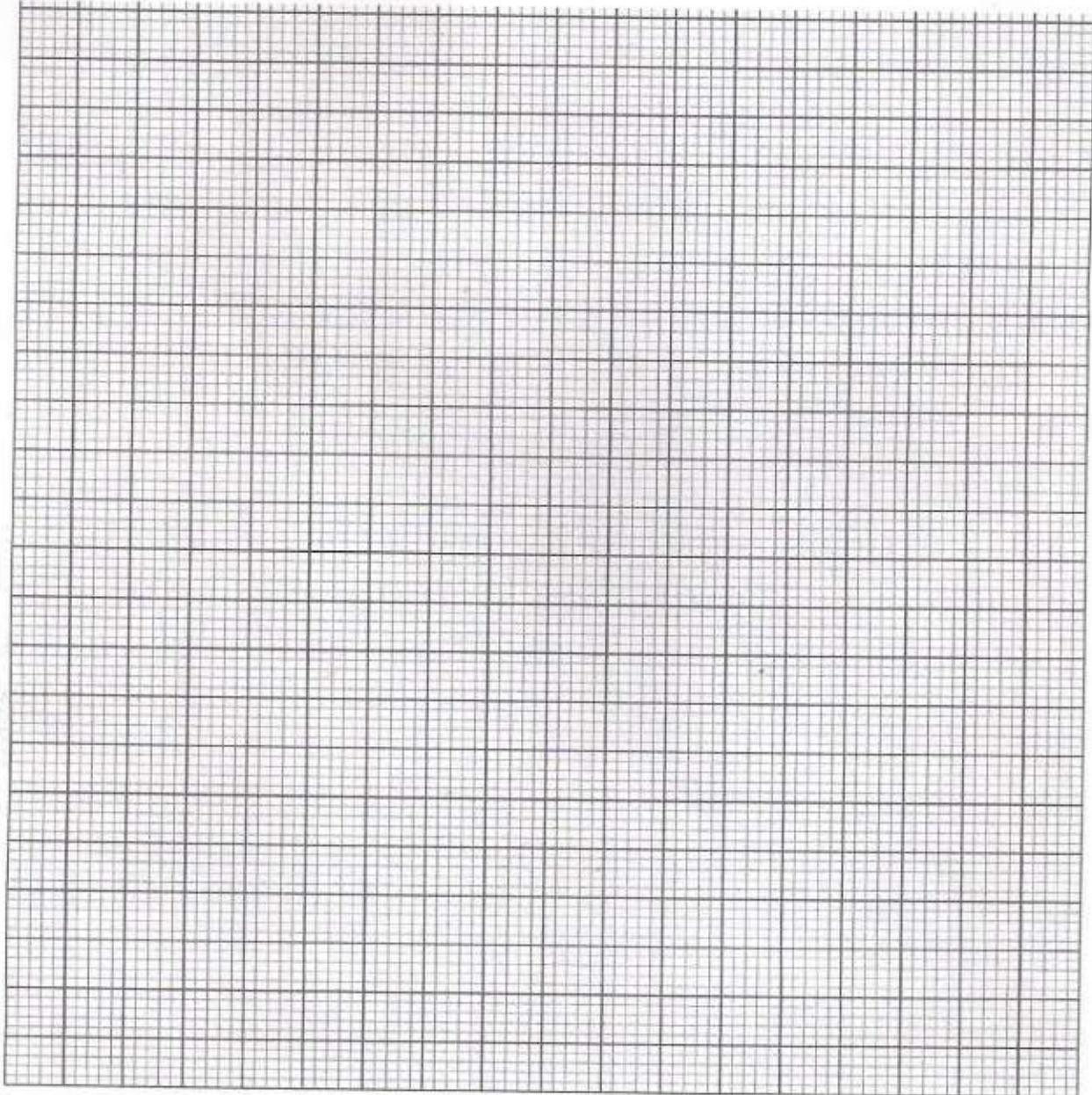
c) Use your graph in (b) above to determine the approximate value of K and n (2 mks)

d) From the graph, find the value of Q where P=3   (2 mks)

22. a) Draw △PQR whose vertices are P(1, 1), Q(-3, 2) and R(0, 3) on the grid provided. (2 mks)
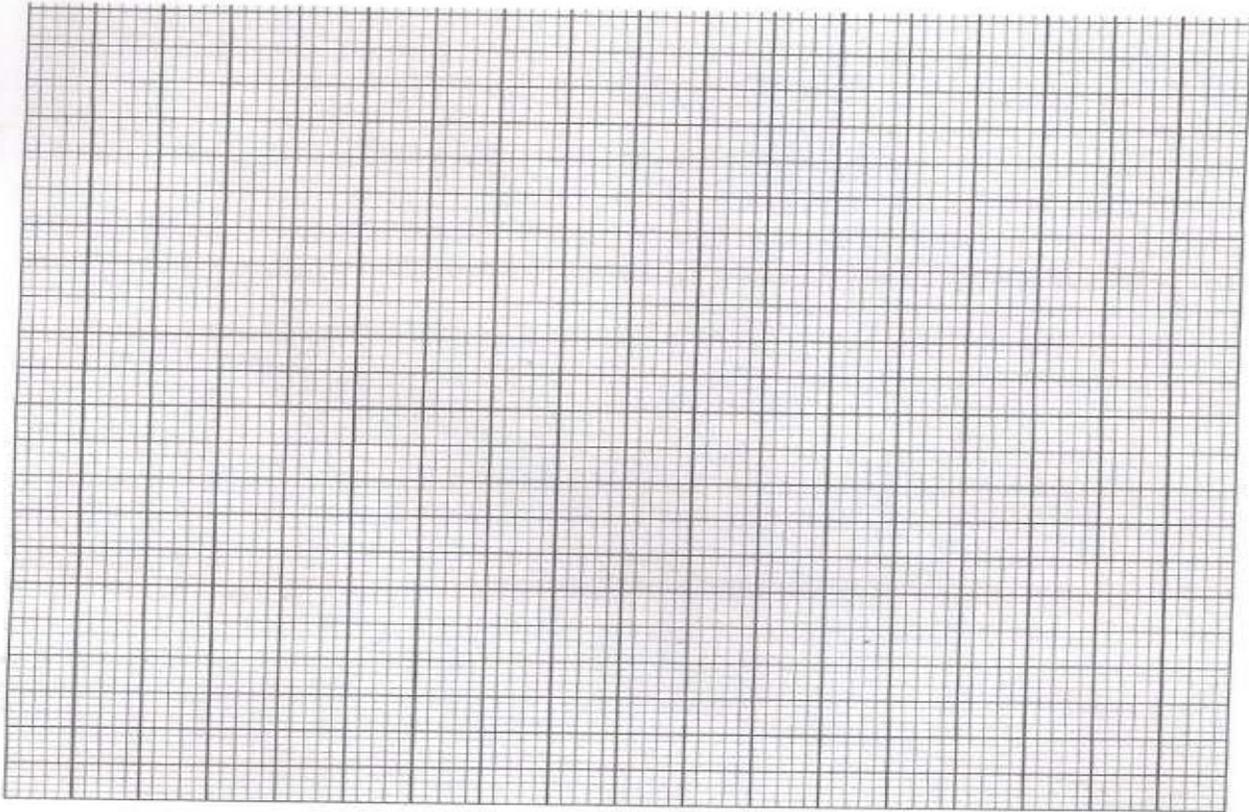
b) Find and draw the image of △PQR under the transformation whose matrix is $\begin{pmatrix} 3 & 0 \\ 1 & 1 \end{pmatrix}$ and label the image P'Q'R'
                                                                        (2 mks)

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c) P'Q'R' is then transformed into P"Q"R" by the transformation with the matrix $\begin{pmatrix} \frac{2}{3} & 0 \\ \frac{-2}{3} & 2 \end{pmatrix}$. Find the co-ordinates

of P"Q"R" and draw P"Q"R" (3 mks)

d) Describe fully the single transformation which maps PQR onto P"Q"R" find the matrix of this transformation.

(3 mks)

23. In the figure below (not drawn to scale) AB=8cm, AC = 6cm, AD = 7cm, CD=2.82cm and angle CAB = 50º.
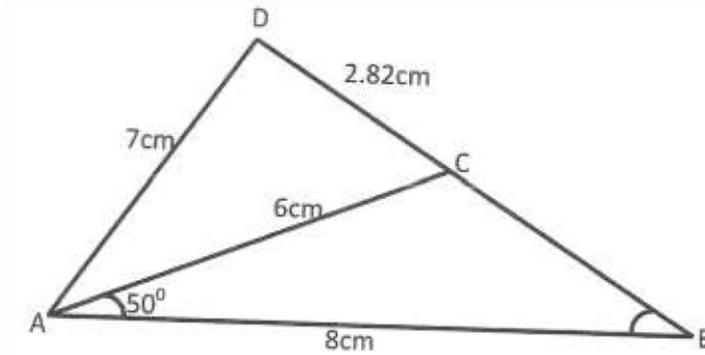
Calculate to 2 decimal places

a) The length BC   (3 mks)

b) The size of angle ABC   (2 mks)

c) The size of angle CAD   (3 mks)

d) The area of triangle ACD   (2 mks)

24. a) i) Find the co-ordinates of the stationary points of the curve $y = x^3 - 3x + 2$ (4 mks)

ii) For each stationary point determine its nature   (2 mks)

b) Determine the y – intercept   (2 mks)

c) In the space provided sketch the graph of the function $y = x^3 - 3x + 2$ (2 mks)

K.C.S.E PREDICTION SET 2

MATHEMATICS

PAPER 2

FOR EXAMINERS USE ONLY

SECTION I

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	total

SECTION II

17	18	19	20	21	22	23	24	total

Grand Total

SECTION I (50 MARKS)

1. The data below shows the number of pupils in Nairutia Primary school

2. Simplify $\frac{512^{\frac{2}{3}} x \, 27^{\frac{-3}{3}}}{128^2 \, x \, 9^{-2}}$ (3 mks)

FOR MORE RESOURCES CALL: 0705525657

42	43	48	40	46	42	44	48	39	40	42
41	47	46	45	49	45	42	40	38	39	40
46	47	42	40	41	45	44	45	46	48	

a) Using a class size of 2 organize the data in a grouped frequency table. (2 mks)

b) Determine the mean of the data (2 mks)

3. The height and radius of a cone are measured as 21cm and 14.0cm respectively. Taking $\pi = 3.142$, find the percentage error in the volume of the cone.

4^{-2}

(2 mks)

4. Use logarithms, correct to 4 decimal places to evaluate (4 mks)

$$\left(\frac{0.7841 \; x \; \sqrt{0.1356}}{log84.92}\right)^{1/3}$$

5. A bag contains 3 red and 5 green marbles. Two marbles are picked from the bag one at a time without replacement. Find the probability that two marbles are picked will be of different colours. (3 mks)

6. In the figure below TA and TB are tangents to the circle centre O. Given that angle ATB = 20°. Find angle PAT.
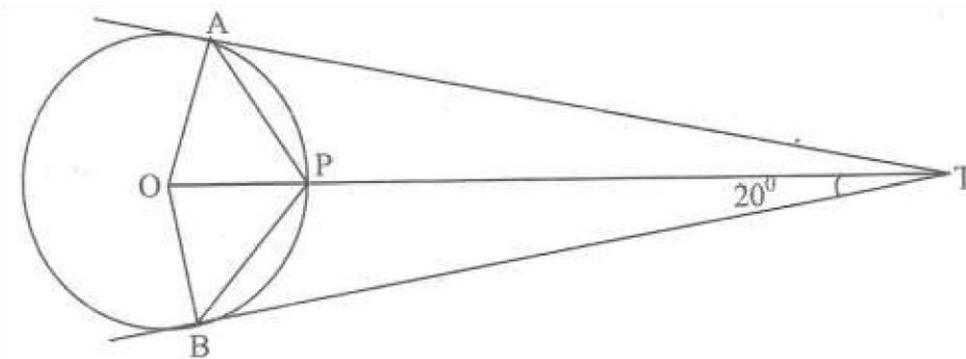
7. Given that x = 3i + 2j – 4k, y = 3i + 5j – 2k and z = -4i + 3j + 5k and that p = 4x – 2y + 3z. Find the magnitude of p

to 4 s.f.   (4 mks)

8. The equation $2x^2$ – 12x + $2y^2$ + 28y = -44 represents a circle. Determine the coordinates of the centre and the length of its diameter.   (3 mks)

9. Expand $(1 + 2x)^8$ in ascending powers of x up to and including the term in x^3. Hence evaluate $(1.02)^8$. (4 mks)

10. Express in surd form and simplify by rationalizing the denominator.   (3 mks)

$$\frac{1+\cos 30^o}{1-\sin 60^o}$$

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11. Find the quadratic equation whose roots are $\frac{-3}{4}$ and $\frac{2}{3}$ and write it in the form $ax^2 + bx + c = 0$ where a, b and c are integers. (2 mks)

12. Make n the subject of the formula (3 mks)

$$W = \frac{x_2}{(m-n)(m+n)}$$

13. The velocity v meters per second of a particle in motion is given by the equation: $V = 2t^2 - 4t + 10$, where t is time in seconds. Determine the total distance moved by the particle in the first 3 seconds of motion. (2 mks)

14. The table below shows the number of defective bolts from 40 samples.

No. of defective bolts (x)	0	1	2	3	4	5
Frequency (y)	20	8	6	4	1	1

Calculate the standard deviation   (3 mks)

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15. A bus left town A at 11.45 a.m. and travelled towards town B at an average speed of 60km/h. A matatu left town B at 1.15 p.m. and travelled towards town A along the same road at an average speed of 90km/hr. The distance between the two towns is 540km. Determine the time of day when the two vehicles met. (4 mks)

16. Form the three inequalities that satisfy the given region R. (3 mks)

FOR MORE RESOURCES CALL: 0705525657
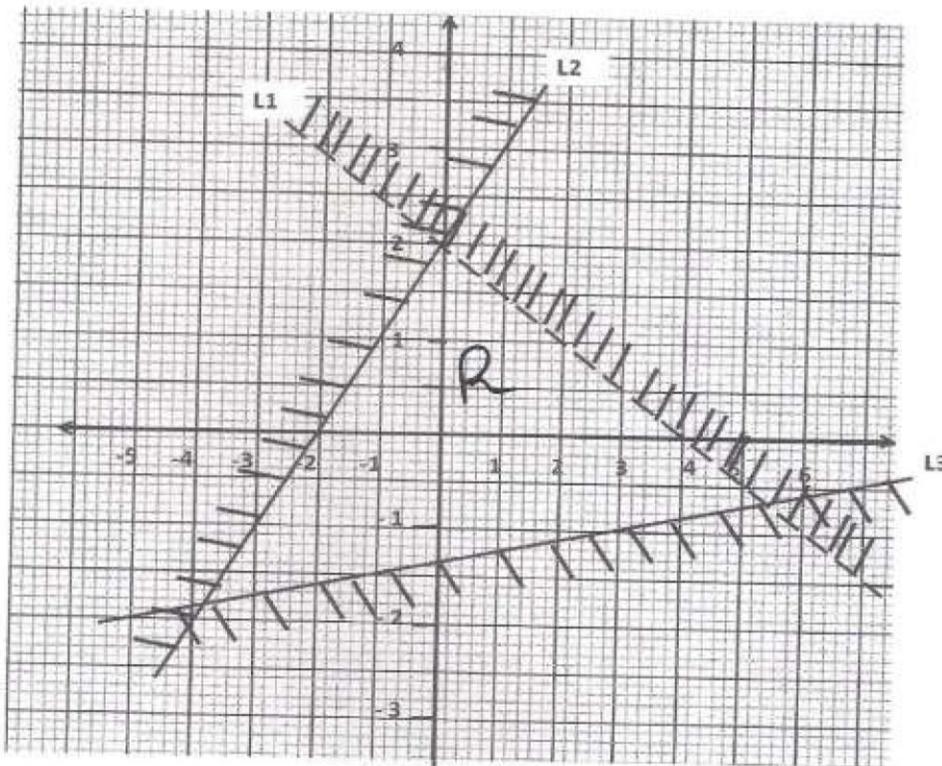
SECTION II (50 MARKS)

Answer any five questions in this section

17. Jane is a teacher who has been recruited to teach. She starts with an annual salary of sh.792000. At end of every year her salary increases by 15% of the previous year.

a) Find the salary she gets in her fourth year in the job. (3 mks)

b) In which year will she earn sh.1, 831, 944. (3 mks)

c) Find the total she will have earned in ten years (4 mks)

18. The diagram below, not drawn to scale shows part of the curve of the curve $y = x^2 + 5$ and the line y=8-2x. The line intersects the curve at points C and D. Lines AC and BD are parallel to the y-axis.

FOR MORE RESOURCES CALL: 0705525657
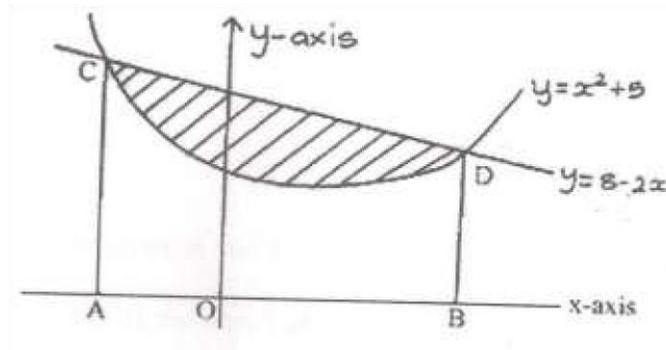
a) Determine the coordinates of C and D. (4 mks)

b) Use intergration to calculate the area bounded by the curve and the x-axis between the points C and D. (3 mks)

c) Calculate the area enclosed by the lines CD, CA, BD and the x-axis. (3 mks)

d) Hence determine the area of the shaded region. (1 mk)

19. The position of two towns are A (30°S, 20°W) and B(30°S, 80°E) find:

a) The difference in longitude between the two towns. (1 mk)

b) The distance between A and B along parallel of latitude in

i) km (take radius of the earth as 6370km and $\pi = \frac{22}{7}$). (3 mks)

ii) in nm (2 mks)

c) The local time in town B when it is 1.45pm in town A (4 mks)

20. a) Using a ruler and a pair of compasses only, construct triangle ABC such that AB=AC = 5.4cm and angle ABC = 30º. (3 mks)

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b) Measure BC   (1 mk)

c) A point P is always on the same side of BC as A. Draw the locus of P such that angle BAC is always twice angle BPC.   (2 mks)

d) Calculate the area of triangle ABC.   (2 mks)

e) Draw a perpendicular from A to meet BC at D. Measure AD. (2 mks)

21. a) P, Q and R are three quantities such that P varies directly as the square of Q and inversely as the square root of R.

i) Given that P = 12 when Q = 24 and R = 36, find P when Q = 27 and R = 121. (3 mks)

ii) If Q increases by 10% and R decreases by 25%, find the percentage increase in P. (4 mks)

b) If Q is inversely proportional to the square root of P and P = 4 when Q = 3. Calculate the value of P when Q = 8. (3 mks)

FOR MORE RESOURCES CALL: 0705525657
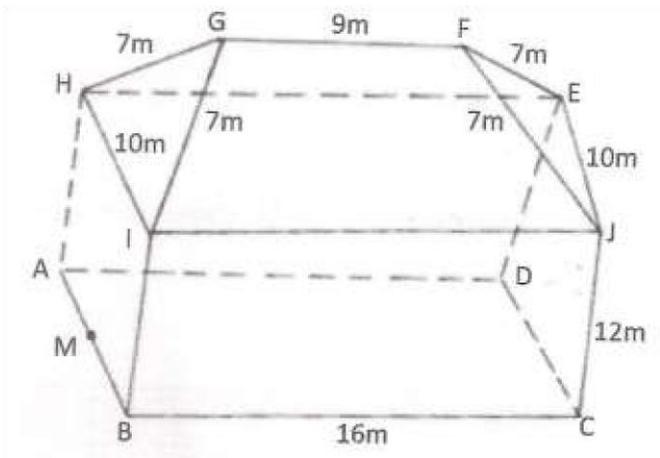
22.

The figure above shows the structure of a building under construction. HA = IB = JC = ED=12m and BC = AD = IJ = HE = 16m; and AB = DC = HI = EJ = 10m and HG = IG = FJ = FE = 7m and GF = 9m.

a) The angle face GHI makes with base ABCD.   (3 mks)

b) Vertical height of ridge FG above base ABCD   (3 mks)

c) angle face GFJI make with ABCD   (3 mks)

d) M is midpoint of AB. What is the projection of MF to the base ABCD? (1 mk)

23. The frequency distribution table below shows the marks scored by 117 form four candidates of Sanga High school.

Marks	10 -19	20 – 29	30 – 39	40 – 49	50 – 59	60 – 69	70 – 79
No of students	13	14	18	20	23	17	12

a) Draw a cumulative frequency curve of the distribution. (5 mks)

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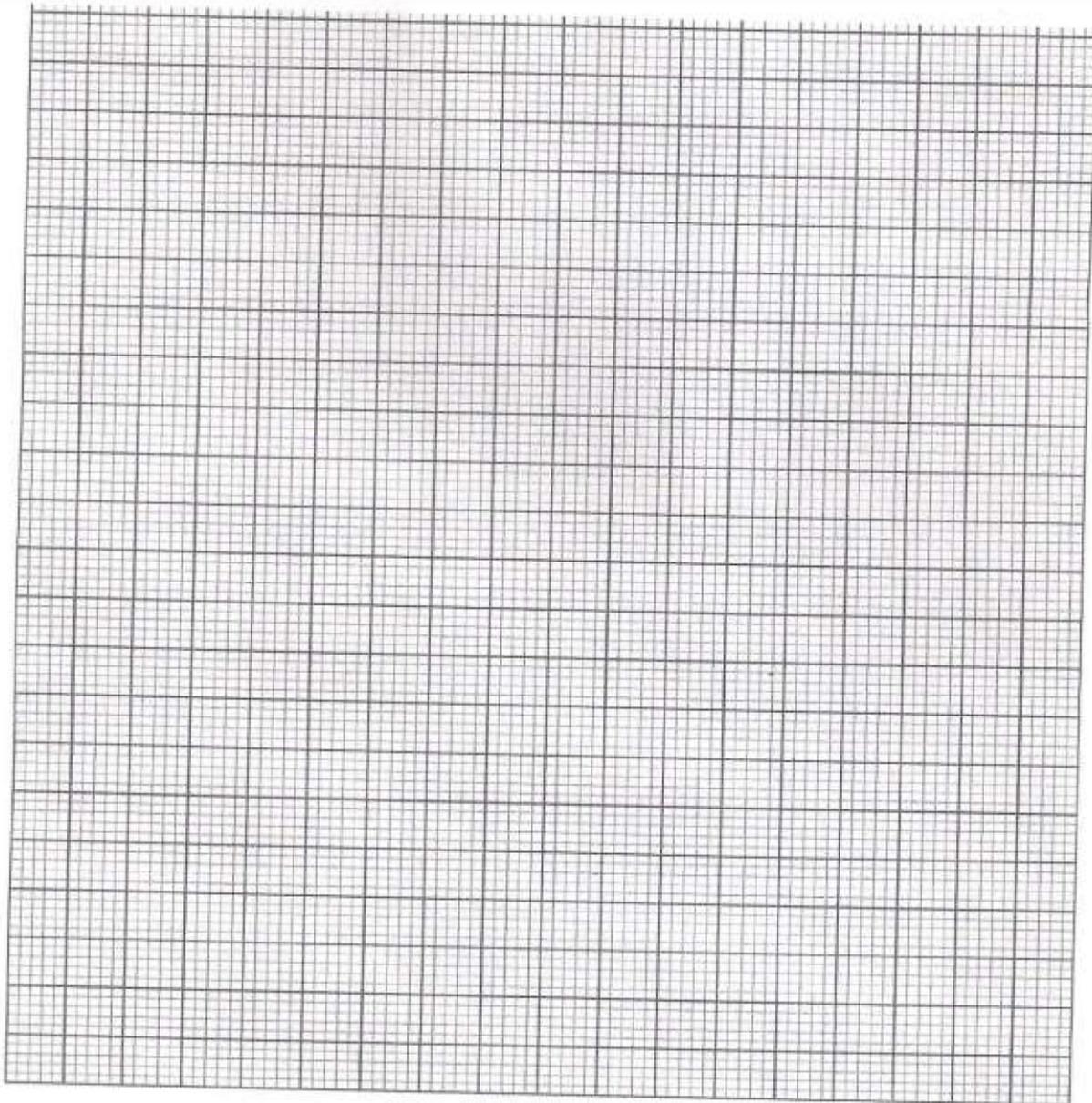
b) Use your graph to determine:

i) The median   (2 mks) ii)

Quartile deviation   (3 mks)

24. In the figure below, OA = **a**, OB = **b** and OC = 3OB.

FOR MORE RESOURCES CALL: 0705525657
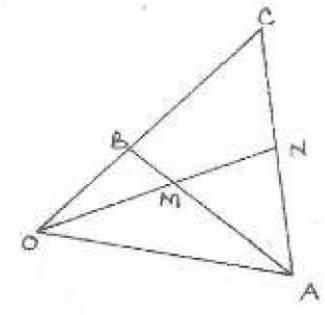
a) Express in terms of a and b

i) AB   (1 mk)

ii) AC   (1 mk)

b) Given that $AM = \frac{3}{4} AB$ and $AN = \frac{1}{2} AC$, express OM and ON in terms of a and b (4 mks)

c) Hence show that O, M and N are collinear. (4 mks)

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K.C.S.E PREDICTION SET 2

232/1

PHYSICS

FORM FOUR

SECTION 25 MARKS

1. The figure drawn shows a burette that was initially filled to the 10cm^3 mark.
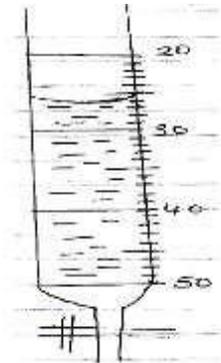
The volume of the liquid removed from the burette has a mass of 12g. Find the density of the liquid in kg/m^3. (3mks)

2. Three 1m long tubes A, B and C were filled with mercury and inverted over a dish containing more mercury as shown below.

FOR MORE RESOURCES CALL: 0705525657
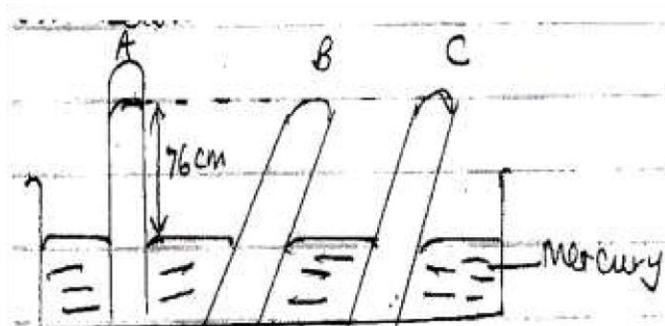
i) Name the set up displayed by tube A and state its purpose. (2 mks)

ii) B is a true set up while C is faulty indicate the levels of mercury in tubes B and C (1 mk)

3. Water at sea level is heated from -2°C to 10°C. On the sketch below indicate the variation of density of water against temperature.
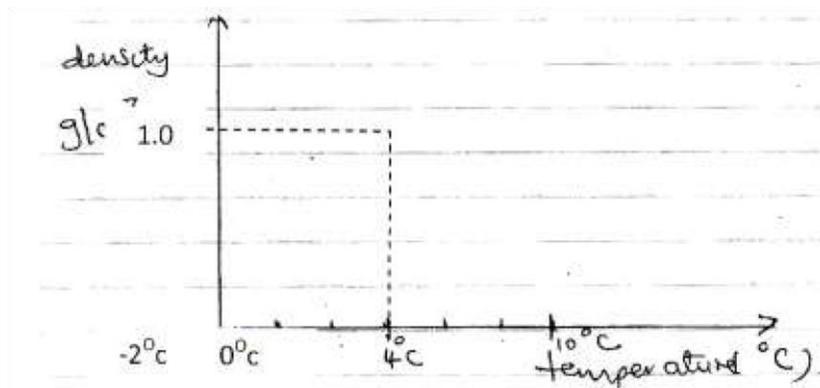
Explain the shape of the graph drawn. (2 mks)

4. Give physics reasons attributed to the following observations in life.

i) Water dams are constructed with thick walls near the bottom than at the top. (1 mk)

ii) Petrol tanks have metallic chains that trail from the rear of the vehicle to the ground. (1 mk)

iii) School hot water tanks are silvery shinny. (1 mk)

5. A jug is filled with paraffin of density 0.8g/cm to a height of 40cm. A hole 1mm^2 is made at the bottom of the jug. (g = 10N/kg)

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$[g = 10N/kg]$

40cm

hole $(1mm^2)$
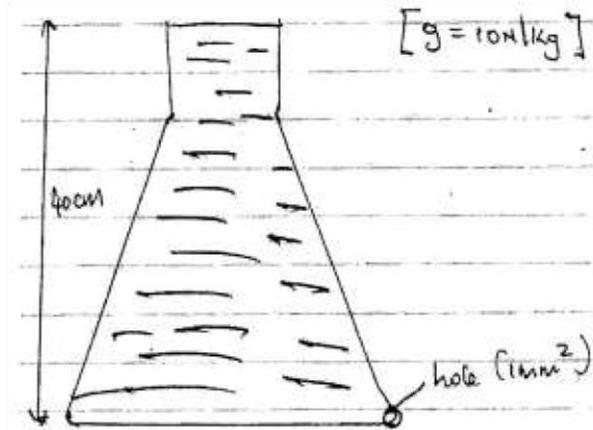
Calculate the force at which paraffin leaves the hole immediately it is pierced. (3 mks)

6. i) State two conditions satisfied by a body in a state of equilibrium. (2 mks)

ii) A beam 100cm long is pivoted at the 30cm mark. It is in balance when supported by a spring balance at the 0cm mark.

$R = 2.5N$

5cm

30cm

100cm

600g
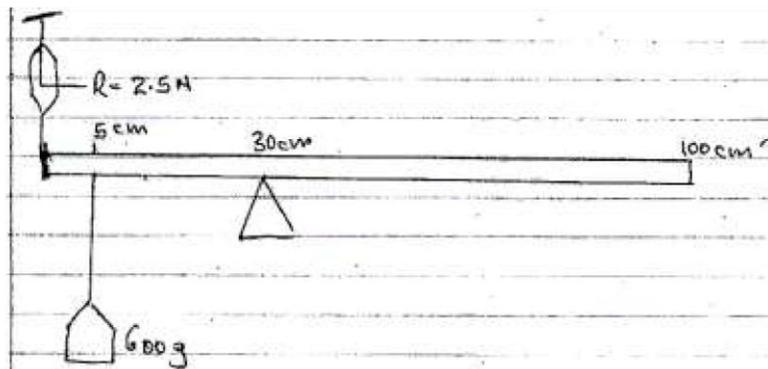
Determine the weight of the beam (3 mks)

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7. Give the factors considered by a driver negotiating a corner in order not to have the vehicle skidding off the road. (2 mks)

8. a) State Bernoulli's principle. (1 mk)

b) The figure below is an example of a wing of an aeroplane.
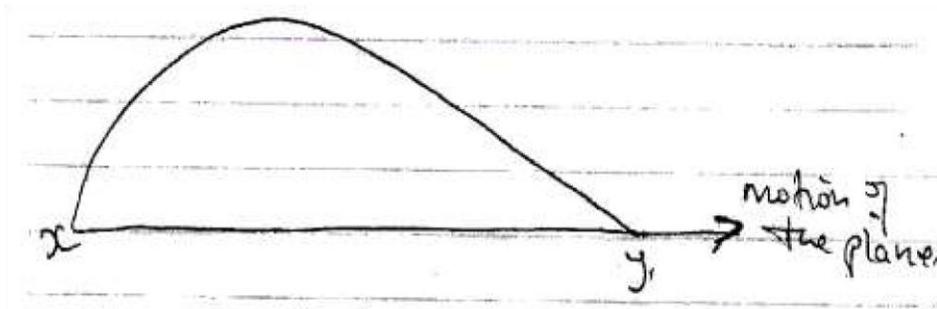
Explain how the plane moving on the run way is able to take off from the ground. (3 mks)

SECTION B: 55 MARKS

9. The diagram below shows a model of a fire alarm made by a student in a science workshop. The metal strip is made of brass and invar.
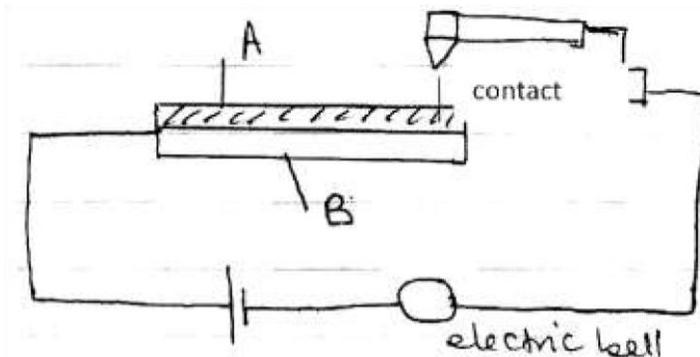
a) Label the metal parts A and B   (2 mks)

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b) The bell rings when the metal strip is heated with a candle flame. Explain. (2 mks)

c) An immersion heater rated 180W is used to heat 100g copper calorimeter containing 200g of alcohol for 36 seconds. The temperature of the contents rose from 20°C to 32°C.

i) State any assumption made above. (1 mk)

ii) Calculate the specific heat capacity of alcohol. (SHC of copper = 400J/kg°C) (4 mks)

10. a) State Archimedes principle. (1 mk)

b) A cork is tied to the bottom of a container containing water as shown below.
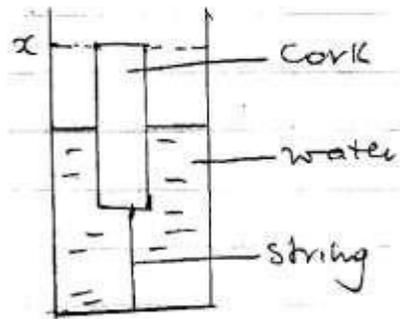
i) Name the forces acting on the cork. (3 mks)

ii) Water is slowly added into the beaker until the level is at point X of the beaker. State changes that occur to the forces mentioned above as water is added. (3 mks)

11. A 50g is rotated by a student using a string that is attached to a 200g mass at the other end as shown in the diagram.
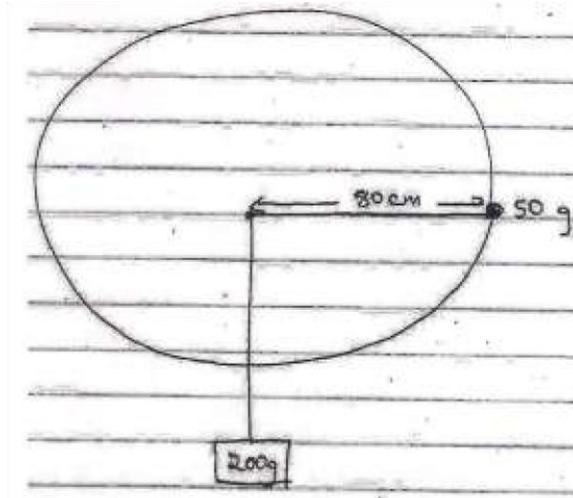
i) Find the tension in the string. (g=10N/kg) (2 mks)

ii) Determine the angular speed made by the 50g mass when rotated uniformly. (3 mks)

iii) Calculate the number of revolutions made by the 50g mass when rotated uniformly in one second. (3 mks)

12. The table below shows the velocity of a small ball bearing falling in a tall cylinder filled with water.

time(s)	0	1	2	3	4	5	6	7	8	9
velocity cm/s	0	1.1	1.4	1.7	1.9	2.2	2.3	2.3		

i) Complete the table. (1 mk) ii) Explain your table values for the time 6 – 9 seconds. (2 mks) iii) Is the acceleration of the ball increasing or decreasing? Explain your answer. (2 mks)

13. a) A constant mass of hydrogen gas occupies a volume of 4.0cm^3 at a pressure of 2.4 x 10^5 pascals and a temperature of 288K. Find the volume of the gas at a pressure of 1.6 x 10^5 Pascals and a temperature of 288k. (3 mks)

b) State the law in operation in (a) above. (1 mk)

14.
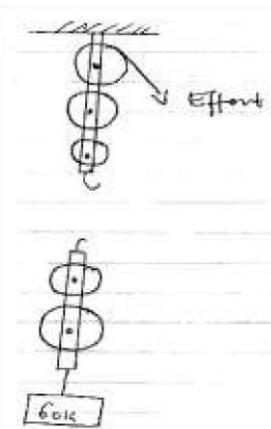
a) Thread the above block and tackle. (2 mks)

b) The system above has an efficiency of 60%. It used to lift the 60kg mass by a vertical height of 2 metres.

i) Find the work done by effort. (4 mks)

ii) Explain why the system is not 100% efficient. (2 mks)

15. a) State Hooke's Law. (1 mk)

    b) Three identical springs each with a spring constant of 10N/m and a weight of 0.5N are used to support a load as shown. Determine the total extension of the system shown below. (3 mks)
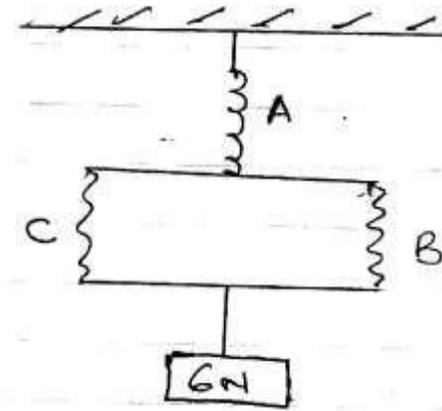
16. A body travels with uniform acceleration from a velocity of 26m/s at its 5th second to a velocity of 42m/s at its 9th second.

a) Calculate the acceleration of the body. (2 mks)

b) Find the initial velocity of the body at time t = 0 seconds. (2 mks)

c) Displacement made by the body between the 5th and 9th seconds. (3 mks)

d) If the body falling down to the ground is as shown below, indicate the forces acting on it as it falls. (3mks)

K.C.S.E PREDICTION SET 2

232/2
Physics
Paper 2(Theory)

Answer all the questions in this section

1. Figure (1) below shows two rays of light from an object reflected on a plane mirror
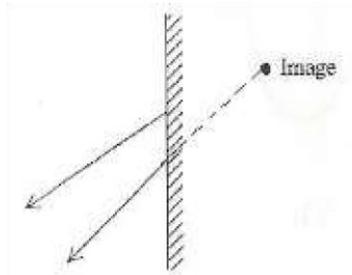
Using proper ray construction, show the object position (2 mks)

2. The fig 2 below shows a ray of light incident on a glass prism
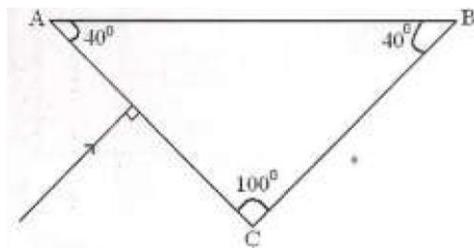
Given that the critical angle for the glass is 39º, sketch on the diagram the path of the ray through the prism. (2 mks)

3. The diagram on fig. 3 shows the National Grid system.
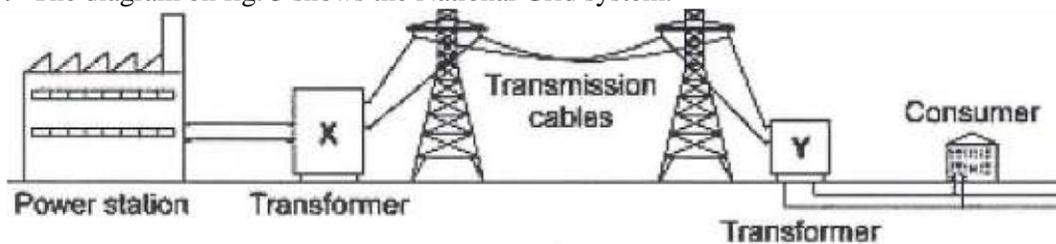
a) What type of transformer is;

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X…………………………………………………….. (1 mk)

Y…………………………………………………….. (1mk)

4. State one advantages of using circuit breakers in the consumer unit than using fuse wire. (1 mk)

5. The figures below show two waveforms representing the same wave motion.
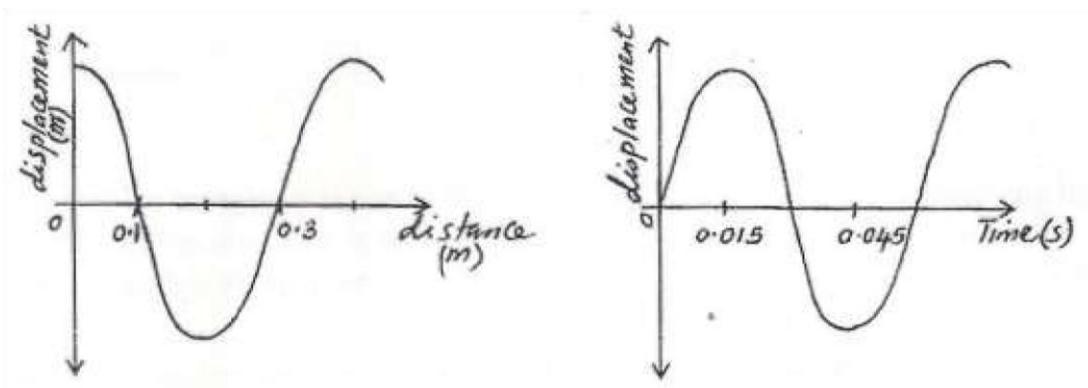
Determine the velocity of the wave. (3 mks)

6. Figure 4 below shows a 6V battery connected to an arrangement of resistors. Determine the current flowing through the 2Ω resistor. (3 mks)
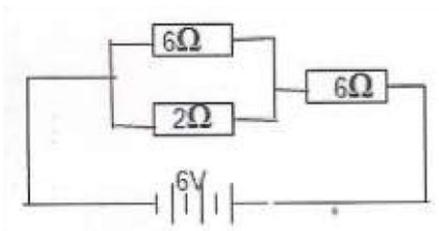
7. The figure 7 below shows the electromagnetic spectrum.

radio waves	Infra-red	A	ultraviolet	B	Gamma rays

a) Identify A (1 mk)

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b) State one industrial use of B   (1 mk)

8.   The diagram (fig 5) shows a positively charged acetate strip and a negatively charged polythene strip that are freely suspended.

acetate strip   polythene strip

Two rods X and Y are brought up in turn to these two strips. Rod X attracts the acetate strip but repels the polythene strip. Rod Y does not repel either the acetate strip or the polythene strip. State the type of charge is on each rod.

X………
……………………………………………

Y………
……………………………………………

9.   State two advantages of an alkaline accumulator over lead acid accumulator. (2 mks)

10. Figure 6 below show a concave lens and object.
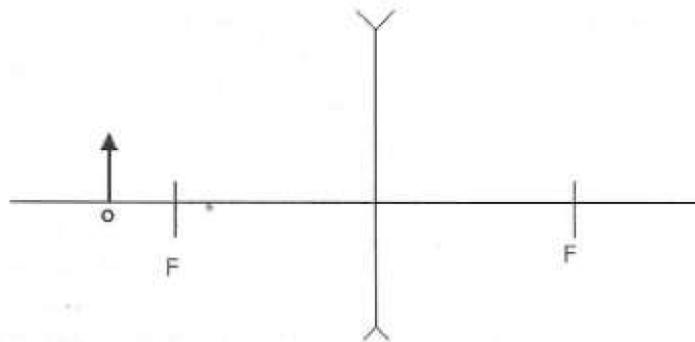
Sketch the rays to show the image formed. (2 mks)

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11. Two similar razor blades were placed on a wooden block and the other on an iron block as in figure 7
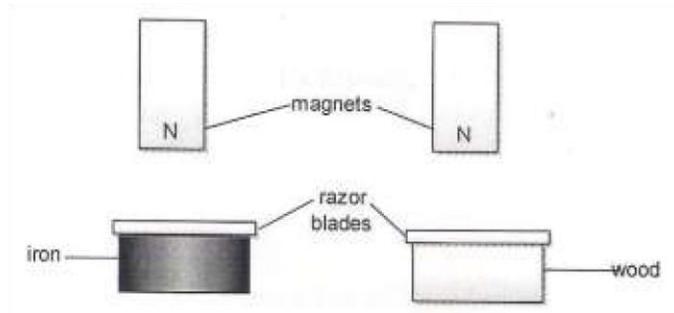
It was observed that the razor blade on the wooden block is attracted by the magnet while that on the iron block was not. Explain. (2 mks)

12. The figure 8 below shows water waves about to pass through a gap. One wave front is shown after it has passed through the gap.
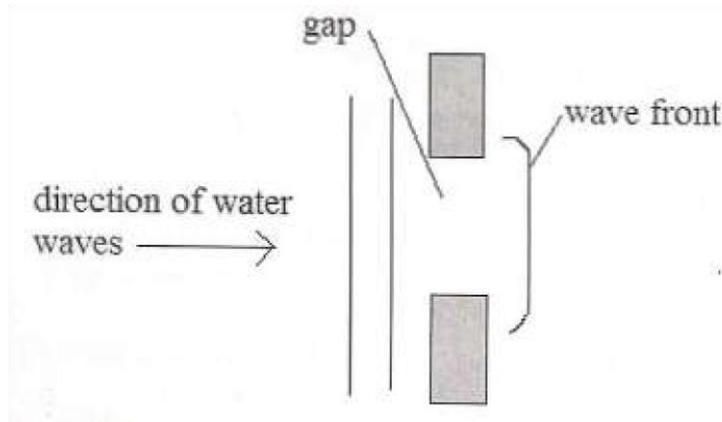
i) On the diagram, draw two more wave fronts that have passed though the gap. (1 mk)

ii) State two changes which would each make the wave fronts become more curved after passing through the gap. (1 mk)

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SECTION B (55 MARKS)

Answer all the questions in this section.

13. a) State what is meant by refractive index of a material. (1 mk)

b) Figure 9 represents a ray of light falling normally on the curved surface of a semi-circular plastic block at X, meeting the opposite face at an angle of incidence of 30º and emerging into the air at an angle of 40º.
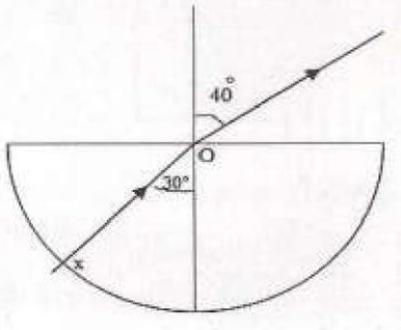
i) State and explain what happens to the ray as it moves from: I) Air to glass at X   (1 mk)

II) From glass to air at O (1 mk)

ii)   Calculate refractive index of the plastic   (3 mks)

iii) State the conditions to be satisfied for total internal reflection to occur (2 mks)

iv) Describe how the apparatus above could be used to find the critical angle experimentally.
(3 mks)

v) Calculate the critical angle for this plastic.   (2 mks)

14. a) State what is meant by the term capacitance   (1 mk)

b) Distinguish between a paper capacitor and an electrolyte capacitor.   (1 mk)

c) State two factors that determine capacitance of a parallel plate capacitor   (2 mks)

d) Figure 10 below shows a network of capacitors in series
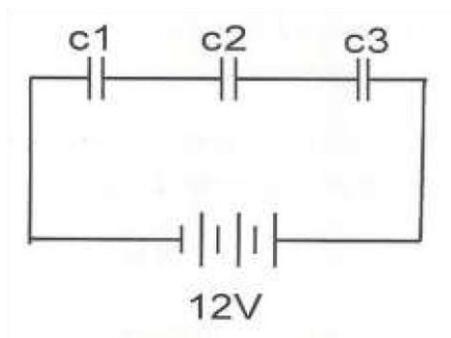
i) Derive an expression for their effective capacitance C_E from first principles. (3 mks)

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ii) Given that C1 = 10.5µF, C2 = 2µF and C3 = 3µF

Calculate effective capacitance C_E in (2) above and hence, determine the charge stored on each capacitor. (3 mks)

e) State two applications of capacitors. (2 mks)

15. a) Use the figure 11 below to answer the questions that follows.
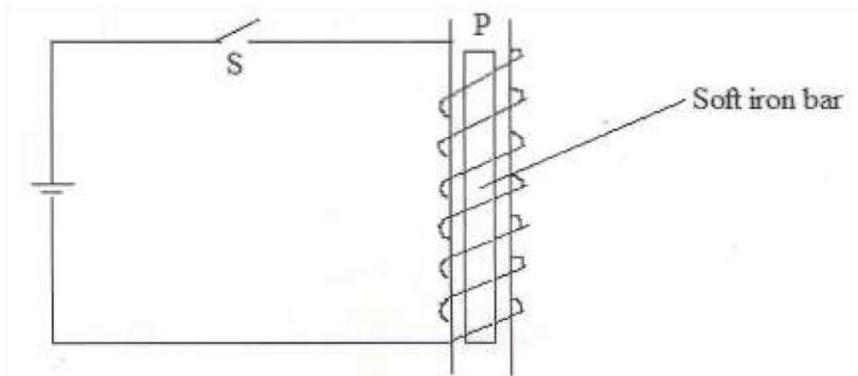
i) Show the direction of the current on the turns when the switch S is closed. (1 mk)

ii) State the polarity at P (1 mk)

iii) Explain using domain theory what happens on the soft iron bar. (1 mk)

iv) If steel bar was used instead, what could be the difference? (2 mks)

b) The following diagram (figure 12), show a part of an electric d.c motor.

FOR MORE RESOURCES CALL: 0705525657
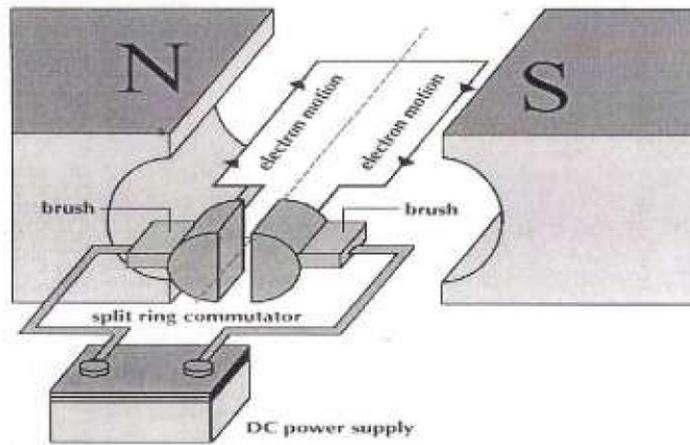
i) On the diagram above show the direction of rotation of the coil. (1 mk)

ii) State the effect of increasing the number of turns of the rotating coil of an electric motor. (1 mk)

c) Sketch the magnetic field pattern around the conductor carrying current on figures 13 and 14 shown below. (2 mks)
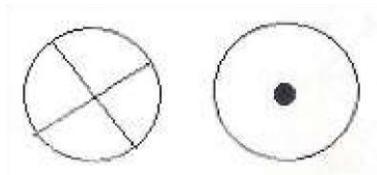
16. a) Distinguish between real image and a virtual image. (2 mks)

b) The distance between an object and its upright image produced by a curved mirror is 40cm. the image is 3 times as tall as the object.

i)   State the type of mirror used. (1 mk)

ii) Determine the object distance (2 mks)

iii) Determine the radius of curvature of the mirror (3 mks)

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iv) State one application of the mirror   (3 mks)

17. a) State Ohm's law   (1 mk)

b) Explain why a 12V car battery is able to start the motor car engine while eight dry cells of 1.5V each connected in series will not. (2 mks)

c) In figure 15 the current in the circuit is 1.80A
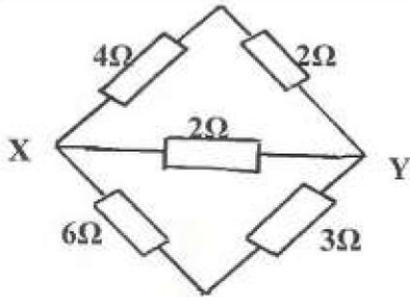
i)   Find the effective resistance between X and Y   (3 mks)

ii)   The p.d of the source   (2 mks)

iii) Current through the 3Ω resistor (2 mks)

iv) Give two differences between a primary and a secondary cell. (2 mks)

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FOR MARKING SCHEME CALL: 0705525657